
State of California

Office of the State Chief Information Officer

IT Accessibility Resource Guide

SIMM Section 25

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INTRODUCTION TO INFORMATION TECHNOLOGY ACCESSIBILITY RESOURCES

Overview

The Office of the State Chief Information Officer (OCIO), together with the Health and Human Services Agency and the Department of Rehabilitation, has created this resource guide to assist state agencies in meeting requirements for accessible Web, Mobile Web, information technology (IT) projects, and digital content creation.

The state's IT Strategic Plan focuses on state government reliance on technology to deliver services that are always available, easily accessible, and affordable. "By engaging Californians about the issues important to them and enabling greater public accountability through enhanced transparency and accessibility, the state can derive significant value from its use of, and investment in, information technology." The OCIO's goal is to "[e]nhance accessibility through the deployment of technologies that exceed the requirements of Section 508 (29 U.S.C. 794d)."

- When assistive tools are available to employees who require them to perform their jobs, productivity is increased.
- When accessibility is built into an IT project during its earliest planning and requirements stages, rework and costs are reduced.
- Awareness of accessibility in developing or retrofitting electronic and information technology ensures that critical information, such as public health and safety, employment, or tax law is available to all who need it.

As a reminder, state agencies are responsible for complying with federal and state laws forbidding discrimination against persons with disabilities, including accessibility of their electronic and information technology. Under existing federal and state laws and policies, state agencies, as well as any contractors working for them, are responsible for ensuring that their agency public Web sites are accessible to the general public and that their internal agency electronic and information technology systems are accessible by state employees, including persons with disabilities.

([State Administrative Manual \(SAM\) 4833](#)).

[California Government Code section 11135](#) directs that: "state governmental entities, in developing, procuring, maintaining, or using electronic or information technology, either indirectly or through the use of state funds by other entities, shall comply with the accessibility requirements of Section 508 of the Rehabilitation Act of 1973, as amended ([29 U.S.C. Sec. 794d](#)), and regulations implementing that act as set forth in [Part 1194 of Title 36 of the Code of Federal Regulations](#)."

For more on the legal foundation for accessible IT, see Section [2.0 Digital Accessibility Law](#).

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IT ACCESSIBILITY RESOURCE GUIDE

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IT ACCESSIBILITY RESOURCE GUIDE

This Resource Guide is intended to provide an overview of digital accessibility, drawing from and identifying the extensive information already available. Federal and state governments, as well as the higher education communities, have been working even before the enactment of Section 508 in 1998 to improve the accessibility of electronic and information technology for persons with disabilities.

The Resource Guide references excerpted quotes applicable to the topics being discussed, along with links to the source materials for further reference. In many cases, additional links to specific language on accessibility requirements or policies are also included for individuals interested in pursuing the topics further.

1.0 Accessible IT Goals

1.1 Accessible IT Goals, Initiatives, and Benefits

Accessible information technology from initial planning to ongoing operations should consider all potential users served by State government. Such accessible IT enhances opportunities for persons with disabilities.

Include everyone

A major goal in state public Web sites, state intranets and internal electronic systems is to include all potential users. Integrating accessibility into the design, development and maintenance of Web sites and EIT increases the ability of all people to use them.

- ❑ “Accessibility is about designing your Web site so that *more people* can use it *effectively* in *more situations*.” “Accessibility in User-Centered Design: Background,” [Just Ask: Integrating Accessibility Throughout Design](#)
- ❑ “Accessibility and usability are two tightly intertwined concepts. The first important relationship is that increased accessibility for users with disabilities almost always leads directly to improved usability for all users.” [Maximum Accessibility: Making Your Web Site More Usable for Everyone](#)

Meet the needs of the people we serve

The goal is also to address the needs of the people we serve. With advancements in technology, more information and services are being provided through state government Web sites and electronic systems. Consequently, state agencies have an increasing responsibility for ensuring that “online” information and services are available in formats that are accessible to all the constituents served.

Improve the ability of over 6 million Californians with disabilities to access State digital information and services

Implementing accessible IT means improving the ability of Californians to access state online information and services, including individuals dealing with one or more disabilities such as:

- ❑ Blindness
- ❑ Visual impairment
- ❑ Color blindness
- ❑ Hearing problems
- ❑ Manual dexterity limitations
- ❑ Speech difficulties
- ❑ Developmental disabilities
- ❑ Seizure disorders

Individuals with disabilities use the state Web and online resources for the same purposes as people without disabilities: to find jobs, file taxes, renew a motor vehicle license, find and compare schools, get a fishing license, or take a tour of state parks. These resources expand their world, increasing their opportunities for education, careers and employment, better health care, independent living, and personal fulfillment. The following sources demonstrate how people use assistive technology (AT) together with accessible IT.

- ❑ [How People with Disabilities Use the Web](#) (World Wide Web Consortium (W3C) Web Accessibility Initiative)
- ❑ [Accessibility Videos and Podcasts](#): Listening to Learn; Introduction to Screen Readers; Screen Magnification and the Web; Etc. (University of Wisconsin – Madison)
- ❑ [Video Demonstrations of Adaptive Technology – Screen Magnification and Refreshable Braille](#) (Stanford Online Accessibility Program)
- ❑ [DO-IT \(Disabilities, Opportunities, Internetworking and Technology\) Streaming Video Presentations](#) (University of Washington)
 - Access to Technology in the Workplace: In Our Own Words - Testimonials from employees with disabilities that support the use of accessible technology in the workplace.
 - Access to the Future: Preparing Students with Disabilities for Careers - a College career development staff share ideas for making services and programs accessible to students with disabilities.
- ❑ [Guidelines for Accessible and Usable Web Sites: Observing Users Who Work With Screen Readers](#) (National Cancer Institute)

While considerable progress to improve accessibility has been achieved, further improvements are still possible to broaden access to everyone. For example:

- ❑ Use of [Captcha](#) visual tests using distorted letters which may not be viewable by visually impaired individuals.
- ❑ Uncaptioned videos, such as public service announcements or training programs do not convey information to persons with hearing impairment.
- ❑ Scanned pages placed in a PDF (Portable Document File) without further processing cannot be read by screen reading software.
- ❑ Entry forms with required fields marked by color code challenge persons with color blindness.

The Benefits of Accessibility to State Initiatives

A statement recently released by the Federal Communications Commission explains the types of changes in technology since the ADA was established in 1990:

"Many technologies that were developed to help people with disabilities gain access have led to technologies that have been later deployed in mainstream products. Voice command technology used to help people with vision, mobility, and cognitive disabilities to type is now being used in cars and e-readers. Predictive-text software, which finishes words that people type in e-mail and search engines, was originally developed as a tool for people with disabilities as well. Closed captioning on video programming, originally designed for people with hearing loss, has become a mainstay in noisy restaurants, airports, and exercise facilities." ([A Giant Leap & A Big Deal: Delivering on the Promise of Equal Access to Broadband for People with Disabilities](#), OBI Working Paper for the Federal Communications Commission, April 2010)

As a technological leader, California continues efforts to ensure all of our citizens can fully participate in the electronic offerings of their government. The [2010 Update to the California IT Strategic Plan](#) includes the following strategic action for Self Governance in the Digital Age. This guide is provided in furtherance of that strategic action:

Enhance accessibility through the deployment of technologies that exceed the requirements of Section 508 (29 U.S.C. 794d).

State initiatives have been undertaken to address accessibility and its importance to the State of California. State government is responsible for providing service to all citizens, including those with disabilities. All citizens and employees, including those who have disabilities, have a right to access California information resources and online services important for their personal well-being, commerce, recreation, and independence.

Technology provides government the ability to reach its citizens electronically. Disabled citizens and the businesses that serve them can access electronic government with the help of assistive technologies. The state's Web presence must be designed in a manner that is accessible to all citizens, and compatible with commonly used assistive technologies. These principles apply to both the Internet and state agency intranets, as state employees with disabilities require effective Web access to the same information and services available to their fellow employees.

Additional information regarding Web accessibility is available at:

[WebTools: Accessibility Background](#) (by the State Web Accessibility Team)

[Recommendation on Accessibility for California State Web Pages](#) (for the State Portal Review Board by the Information Organization, Usability, Currency and Accessibility Working Group):

2.0 Digital Accessibility Law

As a reminder, Federal and state laws, Section 508 and Government Code 11135 respectively, have been established to ensure that Web sites and electronic and information technology (EIT) systems are accessible to persons with disabilities. This section focuses on the various aspects of the federal and state laws, the regulations and standards developed to enforce them, and the permitted exceptions.

Ensuring digital accessibility is one aspect of a broader mandate that state agencies comply with federal and state laws forbidding discrimination against persons with disabilities. The following are federal and state Web sites/resources where the full text of the relevant laws, regulations, etc., are located. Key excerpts are provided for a 'quick read' and to assist in locating the reader's areas of interest:

- **Federal**
 - ❑ [Americans with Disabilities Act](#)
 - ❑ [Rehabilitation Act of 1973, as amended](#)
 - [Section 504](#) Nondiscrimination Under Federal Grants and Programs
 - [Section 508](#) Electronic and Information Technology Accessibility Guidelines
 - ❑ For information on other federal laws:
 - [Other Relevant Laws](#) (Section508.Gov)
 - [A Guide to Disability Rights Laws](#) (U.S. Department of Justice)
- **California**
 - ❑ [Fair Employment and Housing Act](#) (Government Code sections 12900-12951 & 12927-12928 & 12955 - 12956.1 & 12960-12976)
 - ❑ [Unruh Civil Rights Act](#) (Civil Code section 51)
 - ❑ [Disabled Persons Act](#) (Civil Code section 54.1)
 - ❑ For information on other federal and California laws:
 - [Disability Laws and Regulations](#) – Federal and State (California Department of Rehabilitation)

In addition, state agencies are also charged with providing equal employment opportunity to persons with disabilities ([Government Code sections 19230-19237](#) and [Executive Order S-6-04](#)). Accessible information technology is an important aspect in agencies enabling and supporting these laws and policies.

Lawsuits charging inaccessible EIT have been filed against the federal government, as well as against the state governments of Texas, Pennsylvania, and Arkansas, which have laws similar to California. In 2009, legal complaints were filed against the U.S. Department of Education, the U.S. Small Business Administration, and the Social Security Administration for inaccessible Web resources.

2.1 Implications of Federal and State Law

The assemblage of federal and state laws, policies and regulations, as well as court decisions, provides a simple key message:

All agencies are required to have their electronic and information technology accessible.

[California Government Code section 11135](#) includes the requirement that “state governmental entities, in developing, procuring, maintaining, or using electronic or information technology, either indirectly or through the use of state funds by other entities, shall comply with the accessibility requirements of Section 508 of the Rehabilitation Act of 1973, as amended (29 U.S.C. Sec. 794d), and regulations implementing that act as set forth in Part 1194 of Title 36 of the Federal Code of Regulations.”

- [Section 508](#) (29 U.S.C. Sec. 794d): Electronic and Information Technology
- [Section 508 Standards](#): Part 1194 of Title 36 Federal Code of Regulations
- [Federal Acquisition Regulations: Final FAR For Implementing Section 508](#)

The following sections provide key quotes and information from the laws and regulations, with links provided to enable access the full context for each:

2.2 Government Code Section 11135 Basics

- What is [Government Code Section 11135](#)?
 - ❑ State law that provides protection from discrimination from any program or activity that is conducted, funded directly by, or receives any financial assistance from the State of California.
 - ❑ Directs that state agencies follow Section 508 of the federal Rehabilitation Act requiring accessibility of electronic and information technology.
- Key Points:
 - ❑ **Why:** “The Legislature finds and declares that the ability to utilize electronic or information technology is often an essential function for successful employment in the current work world” [... and passed the act in order to] ... “improve accessibility of existing technology, and therefore increase the successful employment of individuals with disabilities, particularly blind and visually impaired and deaf and hard-of-hearing persons ...]”
 - ❑ **Who must comply:** state governmental entities are required to comply with Government Code section 11135. .
 - ❑ **What is required:** State agencies “in developing, procuring, maintaining, or using electronic or information technology, either indirectly or through the use of state funds by other entities, shall comply with the accessibility requirements of Section 508 of the Rehabilitation Act of 1973, as amended

(29 U.S.C. Sec. 794d), and regulations implementing that act as set forth in Part 1194 of Title 36 of the Federal Code of Regulations.”

2.3 Section 508 Basics

- **What is Section 508?**

- ❑ “Section 508 refers to a statutory section in the Rehabilitation Act of 1973 (found at 29 U.S.C. 794d). Congress significantly strengthened section 508 in the Workforce Investment Act of 1998. Its primary purpose is to provide access to and use of federal executive agencies’ electronic and information technology (EIT) by individuals with disabilities. ...
- ❑ “Section 508 requirements are separate from, but complementary to, requirements in sections 501 and 504 of the Rehabilitation Act that require, among other things, that agencies provide reasonable accommodations for employees with disabilities, provide program access to members of the public with disabilities, and take other actions necessary to prevent discrimination on the basis of disability in their programs.”

[What is section 508?](#) (Section 508.Gov)

- **Key Points:**

- ❑ **Why:** “Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage development of technologies that will help achieve these goals. The law applies to all federal agencies [and by Government Code section 11135, California state governmental entities] when they develop, procure, maintain, or use electronic and information technology. Under Section 508 ... agencies must give disabled employees and members of the public access to information that is comparable to the access available to others.”

[508 Law](#) (Section508.Gov)

- ❑ **Who must comply:** Section 508 was written for federal agencies. Government Code section 11135 extends Section 508 to state governmental entities and that extension should be understood in interpreting the Section.

What is required: “Section 508 generally requires federal agencies [and California state governmental entities] to ensure that their procurement of EIT takes into account the needs of all end users – including people with disabilities.”

[Section 508 Acquisition FAQs](#) (Section508.Gov)

- **Accessible Means Comparable Access for the Public and State Employees**

- ❑ The Public: Individuals with disabilities, who are members of the public seeking information or services from a state agency, have access to and use of information and data that is comparable to that provided to the public who are not individuals with disabilities, unless an undue burden would be imposed on the agency.
- ❑ State Employees: State employees with disabilities have access to and use of information and data that is comparable to the access and use by state employees who are not individuals with disabilities, unless an undue burden would be imposed on the agency.

[Based upon [Section 508 Standards Section 1194.1 Purpose.](#)]

- **Accessibility Is Different Than Accommodation**

The following is excerpted from the [Section 508 Self-Help Toolkit – Section 3](#) (U.S. Department of the Navy), [Overview of Reasonable Accommodation and Assistive Technology](#):

“The reasonable accommodation provisions of Sections 501 and 504 are ‘person-centered’ and focus on how an individual's disability should be accommodated in a particular setting. On the other hand, Section 508 is ‘technology-centered’ and focuses on how mainstream EIT products meet the U.S. Access Board's [Section 508] standards, whether or not an agency has employees with disabilities or serves members of the public with disabilities. The standards take a ‘macro’ approach by addressing the accessibility issue at the systems level and requiring the systems to make the adaptation.

“The Access Board standards explain the technical and functional performance criteria that will determine whether a technology product or system is ‘accessible.’ A good rule to follow is that an information technology system is accessible to people with disabilities if it can be used in a variety of ways that are not dependent on a single sense or ability. For example, a system providing output only in audio format would not be accessible to individuals with hearing impairments, and a system requiring mouse actions to navigate would not be accessible to people with [manual dexterity limitations or] mobility or visual impairment.

“It is important to note that even with a 508 accessible system, individuals with disabilities may still need reasonable accommodations. For example, in order to use an accessible word-processing program, a person who is blind may need additional software that is able to read text aloud; if the word-processing program could not be made compatible with a screen-reading program, it might not be accessible.

“As the Access Board's standards cannot ensure that all EIT will be universally accessible to all people with disabilities, reasonable accommodations will always be required in some instances. However, as agencies pay more attention to accessibility when procuring or developing their EIT, they will find it easier to provide reasonable accommodations when requested to do so. In some

instances, people with disabilities may not need accommodations at all, as the underlying technology will be fully accessible to them

- **Key Features of Section 508**

The following briefly describes the major elements of Section 508. Complete descriptions are available in the [Revised 508 Coordinators Reference Manual](#)

- [Definition of EIT / E&IT / ICT](#)

In Section 508. “Electronic and information technology (EIT or E&IT) is defined to include information technology and any equipment or interconnected system or subsystem of equipment that is used in the creation, conversion, or duplication of data or information.” EIT is also referred to as Information and Communication Technology (ICT). ([Draft Information and Communication Technology \(ICT\) Standards and Guidelines](#))

The state definition of IT is “all computerized and auxiliary automated information handling, including systems design and analysis, conversion of data, computer programming, information storage and retrieval, voice, video, data communications, requisite systems controls, and simulation. The term 'information technology' is commonly abbreviated as 'IT'." ([State Administrative Manual \(SAM\) 4819.2 Definitions](#))

Although the definitions appear similar, EIT in Section 508 for federal agencies extends to video and multimedia products as well as self-contained, closed products with embedded software such as copiers, printers, and fax machines. The focus in this document is upon EIT and IT as defined by the State Administrative Manual and under the broad responsibility of the Office of the State Chief Information Officer (OCIO).

While this Reference Guide addresses IT as defined by the state, departments are reminded that Government Code 11135 incorporates the accessibility requirements of Section 508 and, therefore, departments must ensure accessibility of EIT as covered by the broader federal definition. They are required to follow Section 508 standards in developing, procuring, maintaining, or using EIT, including those dealing with copiers, printers and fax machines.

Note: Federal documents, as well as other sources, use both EIT and E&IT as abbreviations for “electronic and information technology.”

- [508 Standards](#)

“The Architectural and Transportation Barriers Compliance Board (Access Board) was charged with developing technical and functional provisions to establish a minimum level of accessibility. The Board issued its Electronic and Information Technology Accessibility Provisions on December 21, 2000. Procurements covered by the provisions became enforceable on June 21,

2001. On April 25, 2001, a final rule was published that incorporates the Access Board's provisions into the Federal Acquisition Regulation (FAR). The FAR changes became effective June 25, 2001.”

“The new technical provisions include: (1) requirements specific to various types of technologies (Subpart B of the Access Board's provisions); (2) functional performance criteria focusing on the functional capabilities of covered technologies (Subpart C); and (3) requirements for information, documentation, and support (Subpart D).

“The technology-specific provisions address software applications and operating systems; Web-based information or applications; telecommunications products; video or multi-media products; self contained, closed products such as information kiosks and transaction machines, and desktop and portable computers. They also address compatibility with assistive technologies that some people with disabilities use for information and communication access.”

❑ [Exceptions](#)

Current exceptions include: National Security Exception; Back Office Exception; Incidental to a Contract Exception; Undue Burden Exception; and the Fundamental Alteration Exception. See [2.5 Reviewing Section 508 Exceptions in State IT Projects](#) for more detail.]

❑ [Non-availability](#)

“An agency may conclude that EIT meeting the applicable technical provisions of the Access Board's standards is not available (and purchase EIT that does not meet those provisions) when it cannot find a commercial item that both meets applicable Access Board's technical provisions and can be furnished in time to satisfy the agency's delivery requirements. If products are available that meet some, but not all, applicable provisions, agencies cannot claim a product as a whole [... is] nonavailable just because it does not meet all of the applicable provisions.”

❑ [Equivalent Facilitation](#)

“Agencies may accept EIT offered by vendors which uses designs or technologies that do not meet the applicable technical provisions in Subpart B but provide substantially equivalent or greater access to and use of a product for people with disabilities. (See 36 CFR 1194.5.) This is referred to as ‘equivalent facilitation.’”

❑ [Complaint Procedure](#)

“This law establishes a complaint procedure and reporting requirements that further promote compliance. Section 508 provides that any individual with a

disability may file a complaint alleging that a federal agency fails to comply with Section 508 when procuring EIT.”

Each state agency is required to include procedures on all its state Web site home pages, within the “Accessibility” and/or “Contact Us” links, clearly describing how to report problems with accessibility. Receipt of complaint or other issues must be assigned to an individual (e.g., Webmaster) or group (e.g., Accessibility Group) with the responsibility and technical knowledge to respond by either correcting the problem or providing an alternative source for the information sought.

Additional information regarding ADA compliance, complaint procedures, and sample documents are available at the Department of Rehabilitation’s [ADA Web page](#).

- **Section 508 Designed to Evolve**

Section 508 is intended and designed to evolve with developments in technology and assistive technologies.

In 2006 to begin the process of updating the standards and guidelines, the U.S. Access Board formed the Telecommunications and Electronic and Information Technology Advisory Committee (TEITAC), to review the existing standards and guidelines and to recommend changes. Recognizing the importance of standardization worldwide, TEITAC coordinated its work with standard-setting bodies in the U.S. and abroad, such as the World Wide Web Consortium, and included representatives from the European Union, Canada, Australia, and Japan.

In 2008, TEITAC presented its report to the Access Board which recommends detailed revisions to the Access Board's section 508 standards and Telecommunications Act accessibility guidelines.

Since then, Access Board staff has been working with an ad hoc committee of Board members and staff from several Federal agencies to develop an advance notice of proposed rulemaking (ANPRM) which was released for public comment on March 22, 2010.

At a later date, the Access Board will publish a notice of proposed rulemaking (NPRM) to update the standards and guidelines based on the input received in response to this advance notice and draft. The final version of the draft will ultimately replace the section 508 standards, the Telecommunications Act accessibility guidelines, and make amendments to the Americans with Disabilities Act Accessibility Guidelines.

- [TEITAC Report](#)
- [Section 508 Update of the Standards](#)
- [Section 255 Update of the Telecommunications Guidelines](#)

In 2010, the Access Board began conducting public hearings and will be issuing proposed revisions.

2.4 Section 508 In-depth

This section builds upon the information from [Section 508 Basics](#) and provides greater detail.

- **EIT as Defined by Section 508**

“Includes information technology and any equipment or interconnected system or subsystem of equipment that is used in the creation, conversion, or duplication of data or information.”

The six categories covered by the Access-Board for Electronic and Information Technology Accessibility Standards include:

- ❑ Software Applications and Operating Systems;
- ❑ Web-based intranet and Internet Information and Applications;
- ❑ Telecommunications products, including telephone systems, voice response systems, and technologies involved with information transmission.
- ❑ Video and Multimedia products, broadcasts, cable, videotape and DVD signals;
- ❑ Self-contained, closed products that have embedded software and include, but are not limited to information kiosks, information transaction machines, copiers, printers, and fax machines; and
- ❑ Desktop and portable computers

Note: Electronic and information technology “does **not** include any equipment that contains embedded information technology that is used as an integral part of the product, but the principal function of which is not the acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. For example, HVAC (heating, ventilation, air conditioning) equipment such as thermostats or temperature control devices, and medical equipment, where information technology is integral to its operation, are not information technology.”

For more explanation of EIT in Section 508 at the federal level, see the full entry for “Electronic and information technology” and other terms in [Section 508 Standards 1194.4 Definitions](#).

- **IT As Defined by the State**

The State Administrative Manual (SAM) [4819.2 Definitions](#), defines IT as follows:

“Information technology means all computerized and auxiliary automated information handling, including systems design and analysis, conversion of data, computer programming, information storage and retrieval, voice, video, data communications, requisite systems controls, and simulation. The term “information technology” is commonly abbreviated as “IT”.

- [Section 508 Standards](#)

Section 508 called for the development of standards, including technical provisions and functional performance criteria, to establish a minimum level of accessibility. Development of these standards is the responsibility of the U.S. Access Board.

- ❑ Subpart A -- General
 - [1194.1 Purpose.](#)
 - [1194.2 Application.](#)
 - [1194.3 General exceptions.](#)
 - [1194.4 Definitions.](#)
 - [1194.5 Equivalent facilitation.](#)
- ❑ Subpart B -- Technical Standards
 - [1194.21 Software applications and operating systems.](#)
 - [1194.22 Web-based intranet and internet information and applications. 16 rules.](#)
 - [1194.23 Telecommunications products.](#)
 - [1194.24 Video and multimedia products.](#)
 - [1194.25 Self contained, closed products.](#)
 - [1194.26 Desktop and portable computers.](#)
- ❑ Subpart C -- Functional Performance Criteria
 - [1194.31 Functional performance criteria.](#)
- ❑ Subpart D -- Information, Documentation, and Support
 - [1194.41 Information, documentation, and support.](#)
- ❑ [Figures to Part 1194](#)

❑ **Applying Section 508 Standards**

There are a variety of resources and expertise available to assist state agencies in determining the appropriate accessibility standards and requirements and in implementing them. [See the selected resources on Section 508 at the end of this section in [Recommended Starting Sources](#) and [Additional Resources](#). Additional resources focusing upon implementation will be found in Recommended Starting Sources in the appropriate sections: [Accessible Web](#), [Mobile Web](#), [Accessible IT Projects](#), and under the specific software authoring tool in [Accessible Content Creation](#).]

One of most detailed is Social Security Administration's (SSA) [Guide to Applying Section 508 Standards](#) which contains:

- ❑ The official language for each Section 508 standard
- ❑ SSA's plain English interpretation of most standards
- ❑ Specific requirements describing the actual characteristics which SSA requires for determining compliance with each standard
- ❑ The assistive technology (AT) pertinent to each requirement
- ❑ The testing methods, and recommended evaluation criteria SSA uses to evaluate products to determine requirement satisfaction

The guide also includes SSA's Accessibility Requirements, which are used to validate compatibility in SSA's technical environment for disabled users and current software versions of the assistive technology used.

2.5 Reviewing Section 508 Exceptions in State IT Projects

California State IT projects are frequently complex, often have relatively large budgets, and frequently have significant impact on the public and/or state staff.

A brief review of Section 508 exceptions early in planning an IT project can help agencies determine if accessibility will likely need to be addressed. If so determined, the state agency should document the nature of the project in the Concept Statement submitted with the Information Technology Capital Plan. Subsequent project documents, such as Feasibility Study Reports, Special Project Reports, or equivalent documents, submitted to the OCIO must include the completed IT Accessibility Certification in the Executive Approval Transmittal (SIMM Sections 20A or 30A).

• Determination of Electronic and Information Technology (EIT)

- ❑ If this is to be an IT project within California state government, then it is likely that the project meets the formal definition of EIT within Section 508:

- ❑ For more information, regarding the definitions and determination of what attributes qualify as EIT, see [1194.4 Definitions](#).

- **Current Exceptions from Section 508**

- ❑ If a state IT project is “for a **national security system** (FAR 39.204(b) and 36 CFR 1194.3(a)),” then it would not need to satisfy Section 508.

"Provides an exception for telecommunications or information systems operated by agencies, the function, operation, or use of which involves intelligence activities, cryptologic activities related to national security, command and control of military forces, equipment that is an integral part of a weapon or weapons system, or systems which are critical to the direct fulfillment of military or intelligence missions. [...] This exception does not apply to a system that is to be used for routine administrative and business applications (including payroll, finance, logistics, and personnel management applications)."

See "Section 1194.3 General Exceptions" in the Preamble to [Electronic and Information Technology Accessibility Proposed Standards](#).

- For more information, see: “G.3. The national security exception,” in [Section 508 Acquisition FAQ's: Exceptions](#).

- ❑ If an acquisition of IT for a state project is “**acquired by a contractor incidental to a contract** (FAR 39.204(c) and 36 CFR 1194.3(b)),” then it would not need to satisfy Section 508.

"That is, the products a contractor develops, procures, maintains, or uses which are not specified as part of a contract with a federal agency are not required to comply with this part. For example, a consulting firm that enters into a contract with a federal agency to produce a report is not required to procure accessible computers and word processing software to produce the report regardless of whether those products were used exclusively for the government contract or used on both government and non-government related activities. On the other hand, if such products were specified as contract deliverables (i.e., they would become government property at the end of the contract) or if a federal agency purchased the products to be used by the contractor as part of the project, those products would have to meet the standards."

See "Section 1194.3 General Exceptions" in the Preamble to [Electronic and Information Technology Accessibility Proposed Standards](#).

- For more information, see: “G.4. The 'incidental to a contract' exception,” in [Section 508 Acquisition FAQ's: Exceptions](#).

- ❑ If a state IT project is “**located in spaces frequented only by service personnel for maintenance, repair, or occasional monitoring of**

equipment (FAR 39.204(d) and 36 CFR 1194.3(f))” in what is called the “**back-office**” **exception**, then it would not need to satisfy Section 508.

"Hardware. Two conditions must be met before an agency uses this exception when procuring a product. First, the agency must intend to locate the product in a physical space frequented only by service personnel. Second, the use of the product by the service personnel must be for maintenance, repair or occasional monitoring. [...] Hardware that might meet these dual conditions includes: telephone equipment placed on racks in a 'closet' or small room and network routers and storage devices or servers located in rooms or areas frequented only by service personnel for maintenance, repair, or occasional monitoring of equipment.

"Software. Software which is installed or operated on a product which falls under this exception would be exempt from the standards if the software application could only be operated from the physical place where the product is located."

- For more information, see: “G.5. The ‘back office’ exception,” in [Section 508 Acquisition FAQ's: Exceptions](#).
- The remaining three exceptions are ones for which a state IT project might also possibly satisfy the conditions for an exception.

In these three cases, however, the agency will likely need to determine functional and technical requirements as well as commercial availability for the IT project before it would be possible to evaluate whether the conditions for those exceptions might be met.

- **Undue Burden:**

“Undue burden is a longstanding concept in disability rights law. In the context of section 508, undue burden is **defined as ‘a significant difficulty or expense,’ considering all agency resources available to the program or component for which the product is being procured** [emphasis added]. This definition is consistent with the use of ‘undue burden’ and ‘undue hardship’ in the Americans with Disabilities Act (ADA) and other sections of the Rehabilitation Act. An undue burden determination must be applied on a case-by-case basis.

“In addition, the statute requires the information and data to be provided to disabled individuals by an alternative means of access. Agencies have additional responsibilities under sections 501 and 504 of the Rehabilitation Act.”

“[W]hen the undue burden exception is invoked, the [...] agency shall provide individuals with disabilities with the information and data involved by an alternative means of access.” (["Undue Burden Exception" in Revised 508 Coordinators Reference Manual](#))

For more information, see: "G.6. The undue burden exception," in [Section 508 Acquisition FAQ's: Exceptions](#).

- **Commercial Non-Availability:**

"The concept of non-availability is recognized in the Access Board's standards (at 36 CFR 1194.2(b)) and the FAR (at 39.203(c)) because agencies may find that some of their needs cannot be satisfied with EIT that meets all the applicable technical provisions."

"An agency may conclude that EIT meeting the applicable technical provisions of the Access Board's standards is not available (and purchase EIT that does not meet those provisions) when it cannot find a commercial item that both meets applicable Access Board's technical provisions and can be furnished in time to satisfy the agency's delivery requirements. If products are available that meet some, but not all, applicable provisions, agencies cannot claim a product as a whole is non-available just because it does not meet all of the applicable provisions. Agency acquisitions must comply with those applicable technical provisions that can be met with supplies or services that are available in the commercial marketplace in time to meet the agency's delivery requirements."

For more information, see: [Section 508 Acquisition FAQ's F. "Nonavailability"](#)

- **Fundamental Alteration:**

"This section allows the use of designs or technologies as alternatives to those prescribed in this part provided that they result in substantially equivalent or greater access to and use of a product for people with disabilities. This provision is not a 'waiver' or 'variance' from the requirement to provide accessibility, but a recognition that future technologies may be developed, or existing technologies could be used in a particular way, that could provide the same functional access in ways not envisioned by these standards. In evaluating whether a technology results in 'substantially equivalent or greater access,' it is the functional outcome, not the form, which is important."

See "Section 1194.5 Equivalent Facilitation" in the Preamble to [Electronic and Information Technology Accessibility Proposed Standards](#).

For more information, see Paragraph (e) in "Section 1194.3 General Exceptions" in the Preamble to [Electronic and Information Technology Accessibility Proposed Standards](#)

- **Remaining Obligations even if an Exception Applies**

"Even if an exception applies, the agency will still have obligations under sections 501 and 504 of the Rehabilitation Act. These sections require, among other things, that the agency provide reasonable accommodation for employees with disabilities and provide program access to members of the public with disabilities."

"If the undue burden exception applies, an agency is required under section 508 to provide an alternative means of access."

See: "G.10. Does an agency have any remaining obligations under the Rehabilitation Act if an exception applies?" in [Section 508 Acquisition FAQ's: Exceptions](#).

2.6 Recommended Starting Sources

These selected sources focus upon the primary sources detailing the law, standards and regulations; major resources created by the federal government to support Section 508; and training materials to learn more. Resources focusing upon implementation will be found in Recommended Starting Sources in the appropriate sections: [Accessible Web](#), [Mobile Web](#), [Accessible IT Projects](#), and under the specific software authoring tool in [Accessible Content Creation](#).

- **Primary Sources**

- ❑ [Section 508](#) (29 U.S.C. Sec. 794d): Electronic and Information Technology (Section508.Gov)
- ❑ [Section 508 Standards](#): Part 1194 of Title 36 Federal Code of Regulations (Section508.Gov)
- ❑ [Federal Acquisition Regulations: Final FAR For Implementing Section 508](#) (Section508.Gov)

- **Basic Information and Support**

- ❑ [Section508.Gov](#)
- ❑ [BuyAccessible.Gov](#)
- ❑ [Access Board](#)
- ❑ [Section 508 Homepage: Electronic and Information Technology](#) (U.S. Access Board)
- ❑ [Revised 508 Coordinators Reference Manual](#) (Section508.Gov)

- **Training**

- ❑ [508 Universe](#) - a central hub for U.S. General Services Administration's Section 508 training and information resources.
 - Designing Accessible Web sites
 - Accessible Conferences
 - Buying Accessible EIT (Requiring Officials and Contracting Officers)
 - Accessible Video and Multimedia

- Building and Buying Accessible Software
 - Buying Accessible Computers
 - Opening Closed Products
 - Micro-purchases and Section 508
 - IRS Course on Software Development
- [508 Training](#) (PDF, 137 slides) (Accessible Technology Initiative (ATI) of the California State University)
- Covers: What is Accessibility?; Disabilities Defined; What is Section 508?; What is its purpose?; Who is impacted by mandating Section 508?; Who is covered by the standards?; What do the standards require?; How vendors can qualify in competitive bids; Where to get professional help for Section 508; and detailed introduction to each of the 508 standards
- [Section 508 Procurement Training](#) (Webinar) (Accessible Technology Initiative (ATI) of the California State University)
- [Session One](#): 508 and Disabilities; Assistive Technologies; Standards; Legal Background
 - [Session Two](#): Software Applications and Operating Systems; Web-based Intranet & Internet Information & Applications; Telecommunications Products; Video & Multimedia Products; Self-Contained & Closed Products, Desktops and Portable Computers
 - [Session Three](#): Determining 508 Standards to Products; Buy Accessible Wizard; Exceptions; Introduction to VPATs; Use of VPAT in Procurement with Examples

2.7 Additional Resources

Materials listed below provide guides, frequently asked questions, manuals, and related information developed by federal agencies and others implementing Section 508. State agencies are encouraged to consult, in addition, the IT accessibility resources of their federal partners.

- **Other**

- [Section 508 \[Resources\]](#) (Accessible Technology Initiative (ATI) of the California State University)
- [Frequently Asked Questions About Section 508](#) (Accessible Technology Initiative (ATI) of the California State University)
- [Limitations of the Application of Section 508](#) – relating to fundamental alteration or undue burden (Accessible Technology Initiative (ATI) of the California State University)
- [Section 508](#) (U.S. Department of Health and Human Services)

- **508 Manuals**

- ❑ [USDA Section 508 Reference Manual](#) (U.S. Department of Agriculture)
- ❑ [Electronic & Information Technology Accessibility \(Section 508 of the Rehabilitation Act\)](#) (U.S. Patent and Trademark Office)

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3.0 Digital Accessibility in State Government

Ensuring successful accessible IT in state government requires that accessibility be incorporated in IT policies and requirements and that each state agency take actions, with appropriate roles and responsibilities assigned throughout the agency.

3.1 Digital Accessibility Policies and Requirements

California state government has already begun incorporating the requirement for digital accessibility in its policies, procedures, and provisions.

State Administrative Manual (SAM)

- [4833 Information Technology Accessibility Policy](#)

"It is the policy of the State of California that information and services on California State Government's electronic and information technology be accessible to people with disabilities."

- [5230 Uniform Standards \(Information Technology \(Department of General Services-Procurement\)\)](#)

Includes: "Acquisitions and projects shall comply with Americans with Disabilities Act (ADA) requirements."

State Information Management Manual

- **Feasibility Study Report (FSR) and Special Project Report (SPR)**

- Accessibility Certification: The IT Accessibility Certification page must be completed to certify that the project meets Government Code section 11135 (Federal Section 508 of the Rehabilitation Act of 1973), or that the project meets one or more of the exceptions.
- Within the Proposed Solution section of the FSR, describe the accessibility requirements of the proposed system (Government Code section 11135 Section 508), and how they were determined. Describe what measures the agency will use to meet accessibility requirements.

- **Procurement Documents**

- In addition to language provided by the Department of General Services (DGS) with regard to the purchase of IT goods and services, it is the responsibility of the state agency to ensure that requirements take into account accessibility. The earlier accessibility requirements are addressed, the less likely the need for later rework and higher costs.
- [General Services Procurement Division: Provisions – Information Technology](#) (GSPD-401IT (Revised and Effective 04/12/2007)) (PDF)

Compliance with Statutes and Regulations

“Contractor warrants and certifies that in the performance of this Contract, it will comply with all applicable statutes, rules, regulations and orders of the United States and the State of California and agrees to indemnify the state against any loss, cost, damage or liability by reason of the Contractor’s violation of this provision.” ... “To the extent that this contract falls within the scope of Government Code Section 11135, Contractor hereby agrees to respond to and resolve any complaint brought to its attention, regarding accessibility of its products or services.”

Americans with Disabilities Act

“Contractor assures the state that Contractor complies with the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq).”

3.2 Integrating Digital Accessibility

An agency wanting to ensure that the general public and state staff, including those with disabilities, has access to the information and services on state IT will take both commitment and time. Here are some suggested basic actions to begin.

- **First Steps for an Agency**

- ❑ Comply with federal and state laws and applicable policies relating to electronic and information technology accessibility.
- ❑ Charge the Chief Information Officer, or designee, as the lead for the agency’s IT accessibility.
- ❑ Establish internal structures to ensure IT accessibility for the public and state staff.
- ❑ Involve all sections of the agency in the responsibility for the effort – programs and services, information technology, procurement and business services, administration and human relations.
- ❑ Evaluate and determine accessibility of the agency Web site, including Mobile Web elements, by persons with disabilities and compliance with Section 508 requirements, and remediate those pages identified as not being accessible.
- ❑ Incorporate appropriate accessibility elements into all stages of the IT development and procurement processes.
- ❑ Require digital content to be accessible by the public and by state staff. Develop and provide guidelines and templates to make content accessible from the beginning when the document or file is first created.

- **Reaching Out through Social Media**

"Agencies and departments are encouraged to use Social Media technologies to engage their customers and employees where appropriate." ([Social Media Standard SIMM 66B](#))

- ❑ Some Social Media sites, however, present challenges for persons with disabilities. The following principles are recommended:

- Any information, services, or programs offered by a state agency on a Social Media system, or other non-state Web site, should also be available through other accessible channels.
- Any information, services, or programs offered by a state agency on a Social Media site should be accessible. Web pages, documents, multimedia, and other files created by the state agency and published on the Social Media site, or other non-state Web site, should themselves be accessible, meeting the state IT accessibility standards.

Following these recommendations would furthermore position an agency to meet some proposed requirements ([Draft Information and Communication Technology \(ICT\) Standards and Guidelines](#)):

- "Electronic content procured or developed by an agency shall be covered by this part, even if the content is not located on a federal Web site or at a federal location." (E103.3.1.1 Location)

The Advisory comments: "A federal video posted on a social media Web site is required to conform to this part. For example, under this part, a video developed by a federal agency must be compliant without regard to whether it is posted on the agency's Web site or on a non-federal third party site, without charge to the agency."

- **Resources for Implementing:**

The Office of the State Chief Information Officer, together with the Health and Human Services Agency and the Department of Rehabilitation, has created this resource to provide information to support agencies in achieving digital accessibility in each of the following areas:

- ❑ [Accessible Web](#)
- ❑ [Mobile Web](#)
- ❑ [Accessible IT Projects](#)
- ❑ [Accessible Content Creation](#)

3.3 Roles and Responsibilities

All sections of an agency need to be involved in digital accessibility and have appropriate responsibilities in that effort – programs and services, information technology, procurement and business services, administration and human relations. The following identifies roles and responsibilities for the Agency Director, CIO, and selected others who need to be involved. These recommendations are guidelines, recognizing that they may need to be modified by individual agencies in response to their own environment.

- **Agency Director**

- ❑ Provides leadership to ensure agency compliance with federal and state laws and applicable policies relating to digital accessibility.
 - ❑ Supports and encourages agency-wide cooperative responsibility from programs and services, information technology, procurement and business services, administration and human relations to be accessible electronically.
 - ❑ Develops and maintains appropriate internal agency structures to support accessibility for the public and for staff to the agency's Web site and electronic and information technology systems.
 - ❑ Communicates the importance of ensuring access to the agency's Web and electronic resources by persons with disabilities to all agency managers and staff.
- **Chief Information Officer**
 - ❑ Remains knowledgeable and current with federal and state laws and applicable policies relating to digital accessibility.
 - ❑ Incorporates digital accessibility into IT from strategic planning through procurement and development to ongoing operations and maintenance, in particular:
 - Web design, development and maintenance
 - Mobile Web
 - Procurement and development of accessible electronic and information technology projects
 - Creation of digital content
 - ❑ Creates and coordinates internal structures that support accessibility for the public and for state staff to the agency's Web site and electronic and information technology systems.
 - ❑ Maintains information on assistive technologies, both hardware and software, used within the agency.
 - ❑ May designate a Digital Accessibility Coordinator and establish an Accessibility Team to facilitate agency efforts.
- **IT Managers**
 - ❑ Incorporate digital accessibility into the determination of IT needs, and system and software development.
 - ❑ Include appropriate accessibility elements from analysis of user needs and assistive technologies to accessibility testing requirements/demonstrations in developing IT procurements and developments.
 - ❑ Evaluate and determine accessibility of the agency Web site, including Mobile Web elements, by persons with disabilities and compliance with Section 508 requirements, and remediate those pages identified as not being accessible.
 - ❑ Make resources, such as information and tools, available and accessible to employees via the agency's intranet.
 - ❑ Work with software and hardware developers to support accessibility by persons with disabilities, including the validation of IT against Section 508 standards.
- **IT Procurement and Contracts Managers**

- ❑ Develop procurement procedures that include appropriate accessibility elements, from analysis of user needs and assistive technologies to accessibility testing.
 - ❑ Write standard language addressing accessibility to include in every applicable agency contract so that participants in all stages of the procurement process validate whether the product or service complies with Section 508.
 - ❑ Determine how the agency documents compliance, non-availability, and undue burden.
 - ❑ Review market research procedures to assess 508 compliance.
 - ❑ Prepare and process all electronic and information technology procurements and contracts in accordance with digital accessibility requirements and Section 508 standards.
 - ❑ Perform market research to determine the commercial availability of products and services that meet the technical provisions availability of compliant products; identify which technical provisions, if any, do not apply due to an exception, such as commercial non-availability or undue burden.
- **Human Resources, Equal Employment Opportunity and Related Managers**
 - ❑ Remain knowledgeable and current with federal and state laws and applicable policies relating to digital accessibility.
 - ❑ Establish and implement a complaint process for digital accessibility and Section 508 issues.
 - ❑ Provide expertise on accessibility gained through accommodations to identify assistive technology solutions and to identify electronic and information technology deficiencies impacting the performance of people with disabilities.
 - ❑ Require digital accessibility in training for staff related to electronic and information technology and creation of digital content.
 - ❑ Incorporate digital accessibility awareness where appropriate into existing training programs.
 - **Public Information Officers and Content Creation Managers**
 - ❑ Recognize the rights of persons with disabilities to access content developed for state Web sites and other state electronic systems.
 - ❑ Develop appropriate agency systems, techniques, templates and guidelines wherever possible to create accessible content from the beginning.
 - ❑ Provide training and support resources to content creators within the agency on both the need for and the means to create accessible content.
 - ❑ Ensure captioning for videos and transcripts for audio-only presentations and materials.

Information on how the federal government is developing roles and responsibilities for digital accessibility may be found in "Roles and Responsibilities," [Section 3 of the Revised 508 Coordinators Reference Manual](#).

Roles and responsibilities for how the California State University is implementing accessibility for its 23 campuses and all departments may be found in the [Executive Order No. 926](#), the California State University Board of Trustees Policy on Disability Support and Accommodations.

3.4 Learning from Others: Approaches to Implementing Digital Accessibility

California is far from alone in working to improve accessibility for all its users of IT. Here are a few of the excellent models for strategies, policies, procedures, training and tools from federal agencies, other states, and institutions of higher education.

Models of Successful Digital Accessibility

The following are a few models of successful digital accessibility:

- [Establish IT accessibility coordinators and accessibility teams to ensure successful implementation of Section 508 within agencies](#) (Federal – Section508.Gov)
- [Establish objectives to support implementation](#) (Accessible Technology Initiative (ATI) of the California State University)
 - ❑ Provide standard methodologies, guidance and feedback.
 - ❑ Provide resources and tools including training, centralized purchasing, and development of enterprise specific tools.
 - ❑ Encourage and facilitate collaboration, information sharing, identification and dissemination of best practices (creating Communities of Practice).
 - ❑ Develop Centers for Excellence.
- [Create an online Web site to support and encourage the enterprise-wide development and sharing of information on digital accessibility](#), from best practices to video tutorials. (Professional Development for Accessible Technology in the CSU – Accessible Technology Initiative (ATI) of the California State University)
- [Create an accessibility best practices portal](#) (U.S. Social Security Administration)
- [Develop Web accessibility validation tool customized for state government standards](#) (PDF) (New York State Forum)

Working Across California State Government and Higher Education: California Accessible Technology Collaborative Highway (CATCH)

“The only way to reach economies of scale, save money, and boost productivity is through organization-wide cooperation.” *Comparing Technology Innovation in the Private and Public Sectors* (2009)

- **CATCH Members:**
 - ❑ [California State University's Accessible Technology Initiative](#)
 - ❑ [University of California's Electronic Accessibility](#)
 - ❑ [California Community Colleges High Tech Training Unit](#)
 - ❑ [Enterprise Digital Accessibility Committee](#) (State Government)
- **Mission:**

- ❑ California State Governmental Agencies and Departments and California's Educational Institutions will work collaboratively to ensure that technology used by employees, students, customers and the general public will be accessible to all, including persons with disabilities.
 - ❑ California will develop and follow a unified strategy, as much as possible, for achieving this mission, and the cooperation of the technology industry will be sought.
- **Goals:**
 - ❑ Sharing information, best practices and approaches;
 - ❑ Developing common standards and methodologies;
 - ❑ Creating and facilitating a communication infrastructure for all Collaborative partners;
 - ❑ Establishing a culture whereby accessibility considerations are the expected norm in technology purchases;
 - ❑ Utilizing common training and tools;
 - ❑ Undertaking joint projects; and,
 - ❑ Publicizing accomplishments.
- **Celebrating Successes**
 - ❑ Summit on Accessible Technology in California Government and Higher Education, February 24, 2009
 - ❑ [Professional Development for Accessible Technology in the CSU](#)
- **Top three CATCH initiatives for 2009-2010:**
 - ❑ Communication
 - ❑ Standardized RFP Language
 - ❑ Minimum Access Standard

4.0 Accessible Web

State Web sites are critical sources of information for millions of the public and thousands of state employees. They need to be accessible. State law in Government Code section 11135 and policy in the State Administrative Manual are clear and unambiguous. There are detailed state standards, accessible Web templates provided by eServices, and extensive resources to assist state agencies in making their Web sites accessible.

4.1 Accessibility Policy Guidance

"It is the policy of the State of California that information and services within California State Government, and provided via electronic and information technology, be accessible to people with disabilities."

[SAM 4833 Information Technology Accessibility Policy](#)

Complaint Procedure: Each state agency is required to include procedures on all its state Web site home pages, within the "Accessibility" and/or "Contact Us" links, clearly describing how to report problems with accessibility. Receipt of complaint or other issues must be assigned to an individual (e.g., Webmaster) or group (e.g., Accessibility Group) with the responsibility and technical knowledge to respond by either correcting the problem or providing an alternative source for the information sought.

Social Media: "Agencies and departments are encouraged to use Social Media technologies to engage their customers and employees where appropriate." ([Social Media Standard SIMM 66B \(PDF\)](#))

Some Social Media sites present challenges for persons with disabilities. The following principles are recommended:

- Any information, services, or programs offered by a state agency on a Social Media system, or other non-state Web site, should also be available through other accessible channels.
- Any information, services, or programs offered by a state agency on a Social Media site should be accessible. Web pages, documents, multimedia, and other files created by the state agency and published on the Social Media site, or other non-state Web site, should themselves be accessible, meeting the state IT accessibility standards.

4.2 Recommended Starting Sources

The two recommended starting sources for accessible Web recognize excellent work already done within the State of California by the state Web Accessibility Team and by the Accessible Technology Initiative within the California State University (CSU). Both sources were developed in response to the requirements of Government Code section 11135 and Section 508. They each provide a wide range of checklists, tutorials, manuals and other tools.

- [CA.GOV WebTools – Web Accessibility](#)

Find the information needed for state Web developers to comply with state and federal Law and the California accessibility standards – developed by the state Web Accessibility Team working with the eServices Office. The site includes: Background; State Standards; How to Implement; Maintaining Accessibility; and Related Web sites.

- CSU's Professional Development for Accessible Technology: Web Site Accessibility

Locate guides, print and video tutorials, best practices, training guidelines and more – developed by CSU staff and others to support the Accessible Technology Initiative within CSU. Two modules - "Design and Site Creation" and "Content Editing & Maintenance" – can only be accessed on CSU campus networked computers or through a VPN connection to a campus.

- ❑ [Introduction to Web Accessibility](#)
- ❑ See a number of useful links under *Web Design Training from Other Resources* in [Design and Site Creation](#) [The first part, *Web Design Training from Lynda.com*, can only be accessed on CSU campus networked computers or through a VPN connection to a campus.]
- ❑ [Forms](#)
- ❑ [Web Applications](#)
- ❑ [Evaluation](#)
- ❑ [Resources](#)
- ❑ [Tools](#)

4.3 Additional Resources

Other resources include both international and federal: the Web Accessibility Initiative (WAI) from the World Wide Web Consortium (W3C); guides and best practices from federal agencies; as well as the Web Content Web site for government Webmasters and its forum. Books on Web accessibility provide extensive background and detailed guidance, a sample of which is included here.

- [Web Accessibility Initiative \(WAI\)](#) (World Wide Web Consortium (W3C))

The Web Accessibility Initiative (WAI), from the World Wide Web Consortium (W3C), is the international leader in promoting accessibility for the Web; WAI has been revising its standards and techniques in coordination with U.S. Access Board's TEITAC with the intent that the WAI work is harmonized with the forthcoming revised Section 508 Standards.

- [Social Media Standard SIMM 66B](#) (OCIO)
- [Social Media and Web 2.0 in Government](#) (WebContent.Gov)
- [Guide to Applying Section 508 Standards](#) (Word, 4.53MB, 115 pgs) (U.S. Social Security Administration)
- [SSA Best Practices for the Web](#) (U.S. Social Security Administration)
- [WebContent.Gov](#)

- [Web Content Managers Forum](#) (an online community with members from federal, state, and local agencies)
- [Web Accessibility: Web Standards and Regulatory Compliance](#) (Book preview)
- [Universal Design for Web Applications: Web Applications That Reach Everyone](#) ([preview](#)) [Available online as an e-book to state staff through the [California State Library](#).]

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5.0 Mobile Web

Millions of people are now accessing the Web through their telephones and other Mobile devices; hundreds of millions are expected to be doing so in the future. Use of Web browsers and online applications on telephones is growing rapidly. It is important to understand the clear relationship between Mobile Web and Accessible Web, so that state agencies respond effectively in making their Web presence available and accessible for those using Mobile devices.

5.1 Importance of Mobile Web

Mobile devices exceed 4 billion world-wide, with increasing number being used to connect to the Internet. The United States is one of the leading countries where this is occurring.

- “1.6 billion people are online, yet more than 4 billion people – two out of every three people on Earth – have a mobile device or access to one. By making the Web accessible on mobile devices, we can usher in a communications revolution on an unprecedented scale and pace.” Jon S. von Tetzchner, Co-Founder Opera Software, [State of the Mobile Web, October 2009](#) (PDF)
- “The mobile device will be the primary connection tool to the internet for most people in the world in 2020.” – [The Future of the Internet III](#) (Pew Internet and American Life Project, December, 2008)
- Already there are 254 million U.S. mobile subscribers in the first quarter of 2008 and 95 million paying for access to the mobile Internet – [Critical Mass: The Worldwide State of the Mobile Web](#) (Nielsen Mobile, July 2008)

5.2 The Connection between Mobile Web and Accessible Web

Creating good Mobile Web sites has much in common with creating accessible Web sites. The problems that people experience with poorly designed Web sites on their mobile devices are frequently the same persons with disabilities face.

- [Shared Web Experiences: Barriers Common to Mobile Device Users and People with Disabilities](#) (World Wide Web Consortium (W3C))
- [Relationship between Mobile Web Best Practices and Web Content Accessibility Guidelines](#) (World Wide Web Consortium (W3C))
- Making content that meets Web Content Accessibility Guidelines also meet Mobile Web Best Practices (World Wide Web Consortium (W3C))
 - ❑ [From WCAG 1.0 to MWBP](#)
 - ❑ [From WCAG 2.0 to MWBP](#)
- Making content that meets Mobile Web Best Practices also meet Web Content Accessibility Guidelines (World Wide Web Consortium (W3C))
 - ❑ [From MWBP to WCAG 1.0](#)
 - ❑ [From MWBP to WCAG 2.0](#)

5.3 Getting It Right for Both

“Web sites can more efficiently meet both goals when developers understand the significant overlap between making a Web site accessible for a mobile device and for people with disabilities.”

- [Web Content Accessibility and Mobile Web: Making a Web Site Accessible Both for People with Disabilities and for Mobile Devices](#) (World Wide Web Consortium (W3C))

5.4 Accessibility Policy Guidance

While the ability of mobile devices to connect and interact with the Internet is relatively recent, the Mobile Web is one component of the state’s overall Web information and services which is required to be accessible. [SAM 4833 Information Technology Accessibility Policy](#)

Furthermore, the State CIO has made clear OCIO support for accessible IT as that technology evolves extends beyond current practices or systems. California State IT should “enhance accessibility through the deployment of technologies that exceed the requirements of Section 508 (29 U.S.C. 794d)” [California Information Technology Strategic Plan 2010](#) (PDF)

Complaint Procedure: Each state agency is required to include procedures on all its State Web site home pages, within the “Accessibility” and/or “Contact Us” links, clearly describing how to report problems with accessibility. Receipt of complaint or other issues must be assigned to an individual (e.g., Webmaster) or group (e.g., Accessibility Group) with the responsibility and technical knowledge to respond by either correcting the problem or providing an alternative source for the information sought.

Social Media: “Agencies and departments are encouraged to use Social Media technologies to engage their customers and employees where appropriate.” ([Social Media Standard SIMM 66B](#)) Some Social Media sites, however, present challenges for persons with disabilities. The following principles are recommended:

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- Any information, services, or programs offered by a state agency on a Social Media site should be accessible. Web pages, documents, multimedia, and other files created by the state agency and published on the Social Media site, or other non-state Web site, should themselves be accessible, meeting the state IT accessibility standards.

5.5 Recommended Starting Sources

The recommended starting sources are from WebTools, beginning with two on mobile devices but which need to be used in conjunction with that on Web accessibility.

- [CA.GOV WebTools – Mobile Devices](#)

Find resources on designing Web sites for mobile devices: Cascading Style Sheets (CSS) for handheld and wireless devices; the CSS Mobile Profile; an emulator for viewing external sites; writing Web pages for the iPhone and other wireless devices; various best practices; and usability guidelines for Web sites on mobile devices.

- [CA.GOV WebTools – Mobile Template \(and Other Information\)](#)

Discover information and resources to develop a Web site that can be accessed by mobile devices, including two approaches: handheld style sheets and mobile-specific sites. Also included are how to think about your content differently when designing a Mobile Web site and the technical specifications from the World Wide Web Consortium (W3C).

- [CA.GOV WebTools – Web Accessibility](#)

Find the information needed for state Web developers to comply with state and federal Law and the California accessibility standards – developed by the state Web Accessibility Team working with the eServices Office. The site includes: Background; State Standards; How to Implement; Maintaining Accessibility; and Related Web sites.

5.5 Additional Resources

Mobile Web resources with good accessibility content are developing. The Mobile Web Initiative continues the World Wide Web Consortium international Web leadership. Research from universities and organizations into the interoperability of accessible and Mobile Web provide better understanding of both potential and challenges.

- [Mobile Web Initiative \(MWI\)](#) (World Wide Web Consortium (W3C))
- [RIAM \(Reciprocal Interoperability of Accessible and Mobile Webs\)](#)
- [Universal Design for Web Applications: Web Applications That Reach Everyone \(preview\)](#) [Available online as an e-book to state staff through the [California State Library](#).]
 - A book “primarily built on the framework of the Web Content Accessibility Guidelines 2.0 (WCAG 2.0) and the Mobile Web Best Practices 1.0 (MWBP 1.0) produced by the World Wide Web Consortium.”

6.0 Accessible IT Projects

A state IT project's business requirements and the agency's mission remain uppermost. Digital accessibility supports those requirements; it does not supersede or trump them.

Integrating accessibility into the procurement or development of IT projects “doesn’t have to be difficult or expensive – if it is a factor at the front end of your design and is integrated throughout the development process. Think of accessibility as a component of all your development activities, rather than as isolated components of the development project.” [IBM Human Ability and Accessibility Center](#)

Procurement or development of accessible IT does require an understanding of: digital accessibility in IT project development, different aspects of Section 508, the types of IT projects required to be accessible, what standards or mix of standards are to be met, and how to include accessibility requirements in the various project documentations for state IT procurements.

6.1 Advantages in Addressing Digital Accessibility Early

- **Recognizes who the users are:**
 - ❑ Initial development of the concept for a new IT project often focuses on the business and technology issues driving changes in an existing system or development of new ones.
 - ❑ Understanding who will be using the system and their needs, however, profoundly affects what and how the new IT project will need to be developed and/or procured.
- **Improves effectiveness and savings:**
 - ❑ “Accessibility is most effective and cheapest when it is addressed at the outset, rather than appended onto a development effort after its inception.” [Cost-Justifying Accessibility](#) (PDF) (Austin Usability)
 - ❑ Architects and contractors know well the expense and challenges of retrofitting accessibility into existing buildings as opposed to designing the building to be accessible at the beginning. The same is true for software and Web development.
- **Creates better design and economic decisions:**
 - ❑ “Decisions made in each development phase will affect the accessibility of the application.”
 - ❑ “Level of effort (and associated cost) to address accessibility increases if issues not addressed until late in the life cycle.”

- [Designing & Developing for Accessibility Throughout the Life-Cycle](#) (PowerPoint), IBM, Annual International Technology and Persons with Disabilities Conference (CSUN), 2009.

- **Encourages including users in project development:**

“Accessibility needs to be an integral component of the product - and considered right from the very outset of the design process,” which leads to:

- Defining the goal to explicitly include reference to the interested target group.
- An appropriate design approach selected to address the target users.
- Those users being included in the evaluation process.

Source: *Designing for Accessibility: a Business Guide to Countering Design Exclusion*

6.2 Section 508 Responsibilities in Development of an Accessible California IT Project

Overview

Before starting an IT project, business and technical managers must be familiar with the requirements of Section 508. Please refer to Section 2.0 for details.

A key to successful IT project management is a solid project management methodology that incorporates best practices through a consistent and repeatable process, and provides a standard structure for planning, managing and overseeing IT projects over their entire life cycle. The State of California has adopted the California Project Management Methodology (CA-PMM) ([SIMM Section 17](#)).

There are a number of different System Development Life Cycles (SDLC) from which to choose when developing a new project. Typical phases of most SDLCs are identified below along with actions and critical partners. The recommendations should be considered flexible to fit with any particular IT project.

California Project Management Methodology

- **Concept Stage:** The purpose of the Concept Stage is to communicate high-level information about a project idea. Ideas for a proposed project go through due diligence to identify, at a high level rather than in great detail, their potential value, alignment with organizational strategy, and whether they overlap with other existing or proposed projects. Rough order of magnitude estimates are also made during the concept stage. The major output of this stage is a Concept Statement.

- **Responsibilities**

Critical Partners: Critical Partners review and comment on the Business Case and participate in the Project Selection Review.

- **Section 508:** Make sure that plans are in place to incorporate Section 508 requirements in the contract(s).

- **Initiating Stage:** The purpose of the Initiating Stage is to authorize and define the scope of a new project. It defines the project's purpose, identifies project objectives and early project risks, assigns a project manager, and authorizes the project manager to begin the project. The case for authorization is summarized in the Project Charter, which includes a clear statement of the purpose of the project, its key objectives, and describes in more detail the business requirements, cost, and schedule.

- **Responsibilities**

Critical Partners: The Critical Partners participate in the development of the Project Charter.

- **Section 508:** Make sure that the Section 508 requirements are included in the Project Charter.

- **Planning Stage:** The purpose of the Planning Stage is to define and mature the project scope, develop the project management plan, and identify and schedule the project activities that occur within the project. The output of the Planning Stage is the Project Management Plan.

- **Responsibilities**

Critical Partners: Critical Partners assess completeness of Planning Phase activities, robustness of the plans for the next life cycle phase, availability of resources to execute the next phase, and acceptability of the acquisition risk of entering the next phase. For applicable projects, this assessment also includes the readiness to award any major contracting efforts needed to execute the next phase.

- **Section 508:** Verify that applicable Section 508 standards are identified and planned.

- **Executing Stage –** The purpose of the Executing Stage is to complete the work defined in the project management plan to accomplish the project's objectives defined in the project scope statement. A detailed project schedule is developed, the team begins to work to produce project deliverables, and the project manager oversees the team's progress to the planned end of the project. Ongoing deliverables and performance data form the basis of the output of this stage.

- **Responsibilities**

Critical Partners: The Critical Partners provide oversight, advice and counsel to the Project Manager on the conduct and requirements of the Development Phase.

- **Section 508:** Establish that requirements identified for Section 508 compliance are incorporated into the system.

- **Closing** – The purpose of the Closing Process Group is to formally terminate all activities of a project, transfer the complete project to others or close a cancelled project, which includes finalizing all activities across all process groups, and transferring the completed or cancelled project as appropriate. This group also establishes the procedures to coordinate activities needed to verify and document the project deliverables, to formalize acceptance of those deliverables by the Sponsor and/or customer, and to document the reasons for terminating a project.

- **Responsibilities**

Critical Partners: The Critical Partners provide oversight, advice and counsel to the Project Manager during the Operations and Maintenance Phase.

- **Section 508:** Ascertain that ongoing change requests incorporate requirements for Section 508.

Typical System Development Life Cycle (SDLC)

- **Procurement** – Develop solicitation documents for all planned purchases (goods and services), including detailed requirements. (See Requirements Analysis below.) The solicitation document must take into account all phases of the SDLC.

- **Responsibilities**

Critical Partners: The Critical Partners provide oversight, advice, and counsel to the Project Manager to ensure the relevant accessibility policies and standards are included in the solicitation document.

- **Section 508:** Make certain that the requirements for applicable Section 508 standards have been identified.

- **Analysis Phase**– Develop detailed functional and non-functional requirements and the Requirements Traceability Matrix (RTM) and award contracts if needed. . The outcome of the Requirements Analysis Phase is award of required contracts and approval of the requirements.

- **Responsibilities**

Critical Partners: The Critical Partners provide oversight, advice and counsel to the Project Manager to ensure that the Requirements Document addresses relevant standards. Additionally, Critical Partners provide information, judgments, and recommendations during the Requirements Review.

- **Section 508:** Make certain that the requirements for applicable Section 508 standards have been identified.

- **Design Phase** - Develop the Design Documents. The outcome of the Design Phase is completion of the Business Product design and successful completion of Preliminary and Detailed Design Reviews.

❑ **Responsibilities**

Critical Partners: The Critical Partners participate in a Design Review to ensure compliance with policies in their respective areas and to make any necessary tradeoff decisions if conflicting goals have arisen during the Design.

- **Section 508:** Establish that any new or further requirements that have been discovered that are necessary to accommodate individuals with disabilities have been added to the Requirements Document and the Design documents. Confirm that there are test cases which incorporate Section 508 standards.

- **Development Phase -** Develop code and other deliverables required to build the Business Product and conduct an Independent Verification & Validation Assessment. The outcome of the Development Phase is completion of all coding and associated documentation; user, operator and maintenance documentation, and test planning.

❑ **Responsibilities**

Critical Partners: The Critical Partners provide oversight, advice and counsel to the Project Manager on the conduct and requirements of the Development Phase.

- **Section 508:** Establish that requirements identified for Section 508 compliance are incorporated into the system.

- **Test Phase -** Thorough testing and audit of the Business Product's design, coding and documentation. The outcome of the Test Phase is completed acceptance testing and readiness for training and implementation.

❑ **Responsibilities**

Critical Partners: The Critical Partners review test procedures and outcomes in their areas.

- **Section 508:** Verify that test plan results for Section 508 testing are satisfactory. The best methodology for ensuring the project is accessible is to identify the right standards, develop good testing protocols, and include as testers individuals representing various types of disabilities.

- **Implementation Phase –** Conduct user and operator training, determine readiness to implement, and execute the Implementation Plan, including any phased implementation. The outcome of the Implementation Phase is successful establishment of full production capability and completion of the Post-Implementation Review,

❑ **Responsibilities**

Critical Partners: The Critical Partners provide oversight, advice, and counsel to the Project Manager on the conduct and requirements of the Implementation Phase. Additionally, they provide information, judgments, and

recommendations to the Business Manager and IT governance organization during investment reviews and in support of Investment Baselines.

- **Section 508:** Establish implementation has maintained the integrity of Section 508 compliance.
- **Maintenance and Operations (M&O) Phase** – Operate and maintain the production system and conduct annual operational analyses. The outcome of the M&O Phase is successful operation of the asset against current cost, schedule and performance benchmarks.
 - ❑ **Responsibilities**

Critical Partners: The Critical Partners provide oversight, advice and counsel to the Project Manager during the Operations and Maintenance Phase.

 - **Section 508:** Ascertain that ongoing change requests incorporate requirements for Section 508.

6.3 Key Steps in Addressing Digital Accessibility in Procurement

An example of an accessible state IT project is the Department of Rehabilitation's (DOR) documentation for a new Electronic Records System. DOR developed its Feasibility Study Report and Request for Proposal in such a manner to demonstrate to other agencies and organizations how ADA, Section 508 and Government Code section 11135 compliance can be achieved using modern functionality that is more readily accessible.

- ❑ FSR: [Electronic Records System Feasibility Study Report](#) (Word)
- ❑ RFP: [Electronic Records System \(ERS\) Project Bidders Library](#)
- **Review the General Exceptions for Section 508 initially to determine if the project qualifies for an exception, which include:**
 - The IT project meets the definition of a national security system
 - The IT project will be located in spaces frequented only by service personnel for maintenance, repair, or occasional monitoring of equipment ("Back Office Exception.")
 - Meeting the accessibility requirements would constitute an "undue burden" (i.e., a significant difficulty or expense considering all agency resources).
 - No commercial solution is available to meet the requirements for the IT project that provides for accessibility.
 - No solution is available to meet the requirements for the IT project that does not require a fundamental alteration in the nature of the product or its components.
- - See [Reviewing Section 508 Exceptions in State IT Projects](#) for specific details.
- **Identify who will be the users of the proposed IT project.**

Even as ideas are being discussed for the Concept Statement, an agency should have identified whom the proposed IT project is designed to serve. Identifying and understanding who will be using the system and how they will be using it is a major step in determining whether accessibility is required and how it needs to be addressed. In identifying the users, the agency should consider past, current, and likely future users. The intent is to understand the users in the broadest sense, not just the current population.

❑ Example:

DOR, in its Electronic Records System RFP, has specific accessibility elements in the Mandatory Functional, Technical, and Administrative Requirements in [Detailed Requirements](#) (Word).

- **Identify user characteristics with current and future needs, including those for persons with disabilities and related assistive technology.**

Accessibility is required, unless there is an exception to Section 508, regardless of whether or not there are or have been users of the proposed project who are persons with disabilities. Someone with disabilities may be hired in the future, or someone currently using the system may acquire a disability. Understanding who will be using the new system(s), including those with disabilities, is important in creating a successful IT project. Key questions to consider include: how people will use the new system; how it will affect their work and process flows; and what changes and challenges it will present. These considerations affect the project from its planning through implementation.

❑ Example:

DOR, in its Electronic Records System RFP, requires in the [Project Team Organization](#) that the Bidder provide a complete resume for each Key Personnel, one of whom must be an Accessibility Subject Matter Expert with required mandatory qualifications. Further information is in the in [Detailed Requirements](#) (Word).

There are summary statistics on the percentage of persons with disabilities, both for state government overall and for many departments, in the [Annual Census of Employees in the State Civil Service](#). Each agency, however, will need more specific data on persons with disabilities from the agency's Equal Employment Opportunity Officer and on assistive technologies and software being used from the IT unit.

- **Identify the accessibility standards and requirements.**

There are a variety of resources and expertise available to assist state agencies in determining the appropriate accessibility standards and requirements for IT projects. See the [Recommended Starting Sources](#) at the end of this section.

One of most detailed is Social Security Administration's [Guide to Applying Section 508 Standards](#) (Word), which contains:

- ❑ The official language for each Section 508 standard
- ❑ SSA's plain English interpretation of most standards
- ❑ Specific requirements describing the actual characteristics which SSA requires for determining compliance with each standard

The standards and requirements should be integrated into the requesting document, addressing accessibility in the appropriate segments.

- ❑ Example:

DOR, in its Electronic Records System RFP, has specific accessibility elements in the Mandatory Functional, Technical and Administrative Requirements. See [Selected Accessibility Requirements from RFP DOR 5160-46](#) selected from the complete [Detailed Requirements](#) (Word).

- **Determine the commercial availability of application.**

"An agency may conclude that EIT meeting the applicable technical provisions of the Access Board's standards is not available (and purchase EIT that does not meet those provisions) when it cannot find a commercial item that both meets applicable Access Board's technical provisions and can be furnished in time to satisfy the agency's delivery requirements."

"If products are available that meet some, but not all, applicable provisions, agencies cannot claim a product as a whole in non-available just because it does not meet all of the applicable provisions. Agency acquisitions must comply with those applicable technical provisions that can be met with supplies or services that are available in the commercial marketplace in time to meet the agency's delivery requirements."
[Revised 508 Coordinators Reference Manual 1.4 Nonavailability](#)

If commercial non-availability is determined, the state agency should document the specific exception in the project documents submitted to the OCIO, using the *IT Accessibility Certification in the Executive Approval Transmittal* ([SIMM Sections 20A or 30A](#)).

Note that even If there is a commercial non-availability exception, the state agency must still provide information to persons with disabilities in an alternate format if proposed noncompliant products or services are purchased (See "[4.3.1 Commercial Nonavailability Exception Determination and Certification](#)," Department of Health and Human Services HHS Policy for Section 508 Electronic and Information Technology (EIT)).

- ❑ Example:

DOR, in its Electronic Records System FSR, undertook research activities including:

- Soliciting vendor input through a comprehensive Request for Information (RFI) process.

- Assessing other state's efforts in vocational rehabilitation case management.
 - Consulting with systems implementation experts within a consulting firm regarding case management systems and enterprise system replacement projects.
- **Review the General Exceptions for Section 508 for a final determination.**

Having determined the functional and technical requirements, including those for accessibility as well as commercial availability for the IT project, it should be possible to evaluate whether conditions for any remaining exceptions might be met.

- ❑ Undue Burden
- ❑ Fundamental Alteration:

"Undue burden is defined as 'a significant difficulty or expense,' considering all agency resources available to the program or component for which the product is being procured. This definition is consistent with the use of 'undue burden' and 'undue hardship' in the Americans with Disabilities Act (ADA) and other sections of the Rehabilitation Act.

"Section 508 provides that if a federal agency determines that meeting the applicable technical provisions would impose an undue burden, any documentation by the agency supporting procurement shall explain why procuring an item that meets all of the applicable Access Board technical provisions would impose an undue burden.

"Additionally, when the undue burden exception is invoked, the federal agency shall provide individuals with disabilities with the information and data involved by an alternative means of access."

State agencies might find the guidance on Undue Burden to California State University campuses of value: [Limitations of the Application of Section 508](#).

If so determined, the state agency should document the specific exception of the project in project documents submitted to the OCIO, using the *Information Technology Accessibility Exception Certification*.

- **Ensure that there is specific language in the FSR and RFP that the proposed IT project will be accessible to users with disabilities and how that accessibility will be determined.**

The accessibility language in the California General Provisions – Information Technology is relatively general regarding Americans with Disabilities Act, Section 508 and Government Code section 11135.

For clarity, the language should specifically inform prospective vendors that digital accessibility is required, that relevant Section 508 standards will be applied, and that testing of accessibility will occur.

- ❑ Example:

DOR, in its Electronic Records System FSR and RFP, addresses accessibility throughout the documents, from objectives to requirements.

- **Determine whether the application includes requirements for each standard, the relevant assistive technologies, and the testing criteria**

One of most detailed resources available is Social Security Administration's [Guide to Applying Section 508 Standards](#) which contains: the official language for each Section 508 standard; a plain English interpretation of most standards; specific requirements describing the actual characteristics which SSA requires for determining compliance with each standard; the Assistive Technology (AT) pertinent to each requirement; and the testing methods, and recommended evaluation criteria SSA uses to evaluate products to determine requirement satisfaction. This guide also includes the SSA's Accessibility Requirements, which are used to validate compatibility in the SSA's technical environment for disabled users and current software versions of the assistive technology used.

□ Example:

DOR, in its Electronic Records System RFP, selected requirements that should be inherent in the application and not require extensive programming ([Demonstration](#)) and included a number of requirements to be demonstrated using the top 3 Assistive technology (AT) applications used by the department ([Demonstration Content \(Requirements\)](#)).

For information from a vendor about accessibility, one of the sources is a Voluntary Product Accessibility Template, or VPAT. The VPAT is the product of a partnership between the Information Technology Industry Council and the U.S. General Services Administration to develop an industry-standard rubric for documenting the extent to which EIT products conform to Section 508 accessibility standards. For example, the California State University requires that vendors complete a Voluntary Product Accessibility Template (VPAT) for all EIT products covered under the Section 508 standards [CSU Product Accessibility Documentation Guidelines](#). The U.S. General Services Administration has also developed [BuyAccessible.Gov](#) for "resources and tools to help [...] meet Section 508 requirements."

- **Require that the application's information, documentation and support be accessible**

The Social Security Administration's "[\(Subpart D\) Information Documentation and Support](#)" in [Guide to Applying Section 508 Standards](#) or U. S. Patent and Trademark Office's [Section 508 Reference Guide - Appendix A: Subpart D of Section 508 "Information, Documentation, and Support"](#) help explain how this can be done.

□ Example:

DOR, in its Electronic Records System RFP, requires that the vendor provide information documentation that can be made available to DOR staff in the appropriate alternate formats ([Format for Training Materials](#)).

- **Require that the vendor will make appropriate expertise in accessibility available**

- Example:

DOR, in its Electronic Records System RFP, requires in the [Project Team Organization](#) that the Bidder provide a complete resume for each Key Personnel, one of whom has to be an Accessibility Subject Matter Expert with required mandatory qualifications (See “ST-9” in [Selected Accessibility Requirements from RDP DOR 5160-46.](#))

6.4 Accessibility Policy Guidance

The Office of the State Chief Information Officer, together with the Health and Human Services Agency and the Department of Rehabilitation, has determined that the intent of Government Code section 11135 is for the state’s IT to be accessible. State agencies should identify the individuals and organizations being served by the IT project and address the need for digital accessibility early. As such, it is the policy of the State of California that information and services on California State Government’s electronic and information technology is accessible to people with disabilities. ([SAM section 4833](#))

6.5 Recommended Starting Sources

- **Accessibility Tutorials and Training**

- [Accessible Electronic and Information Technology \(E&IT\) Procurement Training 101](#) (Accessible Technology Initiative (ATI) of the California State University)
- [Acquisition of Electronic and Information Technology Under Section 508 of the Rehabilitation Act: Questions and Answers](#) (Section508.Gov)
- [Section 508 Basic Training: Tutorials for Purchasing Accessible Technology](#) (Webinar) (Accessible Technology Initiative (ATI) of the California State University)
 - [Introduction to Section 508 - Session One](#): 508 and Disabilities; Assistive Technologies; Standards; Legal Background
 - [Introduction to Section 508 - Session Two](#): Software Applications and Operating Systems; Web-based Intranet & Internet Information & Applications; Telecommunications Products; Video & Multimedia Products; Self-Contained & Closed Products, Desktops and Portable Computers
 - [Introduction to Section 508 - Session Three](#): Determining 508 Standards to Products; Buy Accessible Wizard; Exceptions; Introduction to VPATs; Use of VPAT in Procurement with Examples

- **Standards and Testing**

- ❑ [Guide to Applying Section 508 Standards](#) (Word, 4.53MB, 115 pgs) (U.S. Social Security Administration)
 - ❑ [Guide to the Section 508 Standards for Electronic and Information Technology](#) (U.S. Access Board)
 - ❑ [Guide to the Section 508 Standards for Electronic and Information Technology: Software Applications and Operating Systems \(1194.21\)](#) (U.S. Access Board)
 - ❑ [Sample Summary of Validation of Accessible Purchase Process](#) (Word) (Knowbility for Texas Department of Information Resources)
- **Voluntary Product Accessibility Template / Government Product / Service Accessibility Template (VPAT / GPAT)**
 - ❑ [Understanding Section 508 and the Voluntary Product Accessibility Template](#) (Webinar) (Accessible Technology Initiative (ATI) of the California State University)
 - [Background of Section 508](#): Disability and Accessibility; Accessibility Laws and Trends; Benefits to the CSU Community; Origin of Section 508
 - [How the VPAT Got Its Grid](#): Technical Provisions; Functional Performance Criteria; Information, Documentation, and Support
 - [Getting a VPAT](#): 4 Situations; Searching for VPATs; What To Ask For
 - [Evaluating and Comparing VPATs](#): Walkthrough of Steps; Comparing VPATs
 - [Frequently Unasked Questions](#): Can I Prioritize by Impact? The Vendor is Stonewalling – What Do I Do? Isn't Assistive Technology Good Enough? How Much Paperwork Do I Still Have To Do?
 - ❑ [BuyAccessible.Gov](#) - To determine if your purchase is subject to Section 508, find companies and do market research to buy Electronic and Information Technology (EIT) products or services and provide documentation for Section 508 compliance
 - [Buy Accessible Wizard](#) – This is a tool to facilitate compliance with the requirements of Section 508. (BuyAccessible.Gov)
 - [Buy Accessible Wizard Tutorial](#) (BuyAccessible.Gov)
 - ❑ [CSU Guide to Completing the Voluntary Product Evaluation Template \(VPAT\)](#) (Accessible Technology Initiative (ATI) of the California State University)
 - ❑ [CSU Product Accessibility Documentation Guidelines](#) (Accessible Technology Initiative (ATI) of the California State University)
 - ❑ [How to search for a Voluntary Product Evaluation Template \(VPAT\)](#) (Accessible Technology Initiative (ATI) of the California State University)
 - ❑ [Information to Vendors - CSU Accessibility Requirement](#) (Accessible Technology Initiative (ATI) of the California State University)
- **Accessible Procurement Checklists and Exception Requests**
 - ❑ [10 Steps For Incorporating Gov. Code 11135/Section 508 Requirements In Procurement](#) (Word) (Accessible Technology Initiative (ATI) of the California State University)

- ❑ [Sample EIT Special Exceptions Documentation](#) (Word) (Accessible Technology Initiative (ATI) of the California State University)
- ❑ [Sample EIT Procurement Checklist](#) (XLS) (Accessible Technology Initiative (ATI) of the California State University)

- **Model Initiatives and Projects**

- ❑ California Department of Rehabilitation's Electronic Records System Project
 - FSR: [Electronic Records System Feasibility Study Report](#) (Word)
 - RFP: [Electronic Records System \(ERS\) Project Bidders Library](#)
- ❑ [California State University's Professional Development for Accessible Technology: Purchasing Technology](#)

6.8 Additional Resources

- **Accessibility Policy**

- ❑ [Department of Health and Human Services HHS Policy for Section 508 Electronic and Information Technology \(EIT\)](#)
 - [HHS Interim Section 508 Acquisition Policy Guidance Memo](#) - Buying an EIT system? [A software or Web application, telecommunications device, printer, etc.] (U.S. Department of Health and Human Services)
 - [HHS Interim Section 508 Acquisition Policy Guidance](#) (U.S. Department of Health and Human Services)
 - [HHS Section 508 Acquisition of Communications Products Interim Guidance](#) - Buying just a communication product? [a video, an HTML page, a document or report in other format such as PDF] (U.S. Department of Health and Human Services)
- ❑ [Enterprise Performance Life Cycle Framework Overview Document](#) (PDF) (U.S. Department of Health & Human Services)
- ❑ [Best Value and Other Section 508 Acquisition Q&As](#) (Accessible Technology Initiative (ATI) of the California State University)
- ❑ [Limitations of the Application of Section 508](#) (Accessible Technology Initiative (ATI) of the California State University)

- **Section 508 Coordination to Ensure Compliance**

- ❑ [Revised 508 Coordinators Reference Manual](#) (Section508.Gov)

- **Standards and Testing**

- ❑ [Accessibility Checklist for User Interface \(UI\) Specification](#) (Word) (U.S. Social Security Administration)
- ❑ [Section 508 Reference Guide 1194.21 Software Applications and Operating Systems Checklist](#) (U.S. Patent and Trademark Office)

- **Voluntary Product Accessibility Template / Government Product / Service Accessibility Template (VPAT / GPAT)**

- ❑ [HHS Guide to Completing the Section 508 Product Accessibility Template](#) (U.S. Department of Health and Human Services)
- ❑ [Section 508 Evaluation Template](#) (U.S. Department of Health and Human Services)
- ❑ [HHS Section 508 Evaluation Template Product Accessibility Template \(PAT\)](#) (U.S. Department of Health and Human Services)

DRAFT

7.0 Accessible Content Creation

State agencies must continue to ensure accessibility in the content that they publish on those Web sites, place on their internal systems, or distribute via email to staff and to the public. It needs to be readable by all members of the public including those who rely on assistive technologies. Those responsible for creating much of that content come from throughout the agency – the director, public information office, human relations, business services, and various entities providing programs and services, as well as the IT section itself.

State agencies are not alone in facing this responsibility. Federal and state agencies across the country, as well as most higher education institutions, must do the same. The state Web Accessibility Team (SWAT) and the Accessible Technology Initiative (ATI from the California State University) have taken a lead in developing and organizing materials to help state staff and CSU faculty in creating accessible content, whether as text or in Word, data tables and Excel, multimedia and captioning, PowerPoint, or Portable Document Format (PDF) files.

7.1 How Persons with Disabilities Use Computers and the Web

Over six million Californians have one or more disabilities. Many use the Web and online resources to expand their world, increasing their opportunities for education, careers and employment, better health care, independent living, and personal fulfillment. The following sources demonstrate how people use assistive technology (AT) together with accessible IT.

- [How People with Disabilities Use the Web](#) (World Wide Web Consortium (W3C))
- [Accessibility Videos and Podcasts](#): Listening to Learn; Introduction to Screen Readers; Screen Magnification and the Web; Is Your Document Accessible; Etc. (University of Wisconsin – Madison)
- [Video Demonstrations of Adaptive Technology – Screen Magnification and Refreshable Braille](#) (Stanford Online Accessibility Program)
- [DO-IT \(Disabilities, Opportunities, Internetworking and Technology\) Streaming Video Presentations](#) (University of Washington)
 - ❑ Access to Technology in the Workplace: In Our Own Words - Testimonials from employees with disabilities that support the use of accessible technology in the workplace.
 - ❑ Access to the Future: Preparing Students with Disabilities for Careers.
 - ❑ And more ...
- [Guidelines for Accessible and Usable Web Sites: Observing Users Who Work With Screen Readers](#) (National Cancer Institute)

7.2 General Usability Guidance for Content Creators

Usability is closely related to accessibility in enabling people to use Web sites and Web content more easily. In addition to what should be done to make a specific type of document accessible, content creators are encouraged to be aware of the more general resources such as:

- [Writing for the Web](#) (Jakob Nielsen - useit.com)
- [Plain Language](#) (PlainLanguage.Gov)

Selecting and using appropriate file formats for an agency's Web site is a best practice according to WebContent.Gov which recommends providing access to documents using open, industry standard Web formats or using alternative formats that do not impose an unnecessary burden on the intended audience.

- [Appropriate File Formats](#) (WebContent.Gov)

7.3 Accessibility Policy Guidance

Content intended to be distributed to the general public or state staff by being published on state public Web sites and state intranets or by being distributed through email or listservs must be accessible.

Complaint Procedure: Each state agency is required to include procedures on all its state Web site home pages, within the “Accessibility” and/or “Contact Us” links, clearly describing how to report problems with accessibility. Receipt of complaint or other issues must be assigned to an individual (e.g., Webmaster) or group (e.g., Accessibility Group) with the responsibility and technical knowledge to respond by either correcting the problem or providing an alternative source for the information sought.

To better serve both the public and state staff and to improve their own efficiency in the creation of content, agencies are encouraged to establish policies, standards, guidelines, templates and training to support those creating content so that they can make their documents and files accessible from the beginning when the document or file is first created.

Note: The proposed draft revisions to Section 508 include specific sections for accessibility in content creation, including Chapter 5 on Electronic Documents that is aimed at document authors.

- [Draft Information and Communication Technology \(ICT\) Standards and Guidelines](#) Published in the Federal Register on March 22, 2010.

- [Chapter 5: Electronic Documents](#)

The provisions of this chapter apply to electronic documents, which are mostly static, read-only, non-interactive electronic content.

Examples include Word files, PDFs, PowerPoint presentations, Excel spreadsheets, and simple Web pages (which do not contain Flash). Electronic documents may, however, also contain interactive content, such as hypertext links, buttons, and form elements or fields. All of these elements are covered in this chapter.

Electronic content covered by this chapter includes most non-paper documents and Web content, regardless of format. This chapter is oriented towards document authors, rather than developers.

- [Chapter 6: Synchronized Media Content and Players](#)

The Advisory on scope comments: "Synchronized media is audio or video displayed at the same time as other time-based content that is required for understanding of the complete presentation."

The chapter includes: General; Video or Audio Content with Interactive Elements; Captions and Transcripts for Audio Content; Video Description and Transcripts for Video Content; Caption Processing Technology; Video Description Processing Technology; User Controls for Captions and Video Description; and Audio Track and Volume Control.

7.4 Creating Accessible Content

Like the Web site, documents and files need to be properly prepared to be accessible. There is no single document format nor commonly used office automation software that generates an accessible file in and of itself.

The best approach is to make content accessible at the beginning when the document or file is first created.

7.41 Text Documents (TXT)

The simplest format for storing text files in computer files and on the Internet is as plain text (TXT). Text editors are widely available for personal computers and large systems, such as Notepad, BBEdit, TextMate, Vi, Vim, and TextPad. Many word processing software programs also can save files as plain text.

A document in text format is limited to combinations of 128 text characters: upper and lower case letters, numbers, and a few punctuation and other characters. The text format does not support any formatting of the characters such as bold, italics, underlining, or different font sizes. A document saved as a text file will be legible but will lose all the formatting apart from line- and paragraph breaks, nor will it include any graphics. While a text document may contain Web addresses, they may not be presented to users as links. Text documents also do not support the internal navigation capabilities available in HTML and other document types.

Plain text files are generally accessible in so far as the contents being read by screen reading software or converted into Braille.

The text format can work well for relatively short simple documents and for longer straight-forward documents in which the content is presented in a clear, linear fashion. The text format can be problematic for some documents, for example when presenting:

- Large, complex documents;
- Links to other resources or information;
- Tables in which there are relationships between data and text.

It is important when converting an existing document to text format to ensure that critical information is not lost in the process. For example:

- The logical flow of the document is preserved;
- Any relationship between data previously shown by tables remains clear;
- No embedded links or URLs are lost; and,
- No information from graphics or alt= tags is lost.

Recommended Starting Sources

- **Manuals / Tutorials:**
 - ❑ [Making Your Work More Accessible: Notepad and Plain Text](#) (Freedom Scientific - JAWS Screen Reader)

7.42 Rich-Text Format Documents (RTF)

Rich-Text Format (RTF) is a file format that permits the exchange of editable files containing both text and graphics between different versions of word processing programs and different operating systems. The portability of an RTF file depends in part upon which version of RTF is being used, as well as the capabilities of the word processing software that creates the document and the software that reads the file. Microsoft Word and a number of other word processing software can save documents in RTF.

Rich-Text Format allows ready exchange between software and operating systems including formatting, graphs, pictures or other images as well as text.

RTF is sometimes said to be accessible because RTF files can usually be opened by software that users with disabilities already have on their systems, that is, programs with which they are familiar and that work with their assistive technologies. It is important to recognize, however, that RTF files that have not been prepared to be accessible when they were created may present serious problems to persons with disabilities who try to read them. If tabs are used to create the appearance of columns or images convey significant content but lack alternate text, then such problems will continue to render contents of the file inaccessible.

The original document should be properly prepared so that structure, headings, tables, columns, colors, graphics, and other elements are done correctly.

To make documents containing such graphics accessible:

- It is critical that sufficient information on all graphs, pictures and other images be available so that assistive technologies can interpret their content and intent.
- No important information should be conveyed solely by graphics.

Information on what is needed to create an accessible document and, in the case of Microsoft Word, how that can be done are on the following pages where there are Checklists, Manuals and Tutorials, and Web sites.

7.43 Microsoft Word (DOC/DOCX)

Microsoft Word is the most commonly used word processing software. Its DOC/DOCX format has become a common format for documents on the Web. Word documents are frequently used, including by people who use assistive technologies.

For a Word document to be accessible, however, it needs to be properly prepared, including using the program's Styles to provide structure to documents and such features as Columns for flowing text.

Word documents may contain graphs, pictures or other images. To make these documents accessible, all graphs, pictures, or other images must be tagged or subtitled so that assistive technologies can interpret the content and intent of the graph, picture, or image.

More accessibility support for Word is planned by Microsoft with Office 2010 including "a document Accessibility Checker (like a spell checker, but for accessibility issues) as a core feature of Word, Excel, and PowerPoint." The Accessibility Checker is designed to identify and provide assistance to address some of the major accessibility problems in Word documents.

[Office 2010: Accessibility Investments & Document Accessibility](#) (Microsoft)

- ❑ "For organizations that are concerned about compliance for employees, we've provided several group policy settings that can be used to customize exactly which accessibility violations are checked. Administrators can also increase the visibility and emphasis of the Prepare for Sharing information when there are errors or warnings. Finally, IT departments can leverage Office 2010's UI extensibility to enforce a workflow that requires users to run the checker – this will help many corporations reduce the risk of employees creating inaccessible content and increase the amount of accessible information available to people with disabilities."

Recommended Starting Sources

- **Checklists:**

- ❑ [SSA Desk Guide to Accessible Word Documents](#) (Word) (U.S. Social Security Administration)
- ❑ [Guide to Accessible Word Documents](#) (Word) – See *Microsoft Word Accessibility Checklist* on p. 3 (U.S. Social Security Administration)

- **Manuals / Tutorials:**

- ❑ [Guide to Accessible Word Documents](#) (Word) (U.S. Social Security Administration)

Creating a Word document to be accessible from the time it is first started is the best practice. Two good resources to use when beginning are:

- ❑ [Making Microsoft Word 2007 Documents Accessible](#) (PDF) (Franchise Tax Board)

- ❑ [Microsoft Word 2007: Creating Accessible Documents](#) (PDF, 716 KB)
(Accessible Technology Initiative (ATI) of the California State University)

- **Web sites:**

- ❑ [CSU's Professional Development for Accessible Technology: Microsoft Word](#)

Find guides, print and video tutorials, best practices, training guidelines and more – developed by California State University staff and others to support the Accessible Technology Initiative within CSU.

- Topics include: using styles for accessibility, font selection, color and meaning, and data tables.
- Versions of Word include: 2007 and 2003 for Windows; 2008 and 2004 for Mac.

Note: A few resources are available only to CSU staff and students.

Additional Resources

- [Creating Accessible Documents in MS 2007](#) (PDF) (California State University AIM Grant)
- [Microsoft Word Tutorial \(Word 2003, 2007\)](#) (WebAIM)
- [Creating Accessible Documents with Microsoft Word 2003](#) (Word) (Accessible Technology Initiative (ATI) of the California State University)
- [Creating Section 508 Compliant Microsoft Word \(2003\) Documents I](#) (PowerPoint – 1.16 MB) (U.S. Department of Health and Human Services)
- [Creating Section 508 Compliant Microsoft Word \(2003\) Documents II](#) - More detail on applying styles (PowerPoint – 2.2 MB) (U.S. Department of Health and Human Services)
- [Word Document 508 Checklist](#) (U.S. Department of Health and Human Services)

7.44 Data Tables and Excel Tables

Recording, organizing and comparing data are at the heart of spreadsheets, frequently with a number of rows and columns. Microsoft Excel, like its Word counterpart for word processing software, is a commonly used spreadsheet software and its XLS a common format for spreadsheet documents. HTML using data tables is the preferred approach to making data accessible to persons with disabilities who use screen readers.

Microsoft Excel and Excel files (XLS/XLSX) are not as accessible as the HTML data tables; however, if the document is properly prepared, screen reading software allows persons with disabilities who have Excel to navigate the rows and columns in a spreadsheet, to identify row headers and column headers for data cells.

In Excel spreadsheets, the data is often used to generate a chart or graph. Any charts, graphs, pictures or other images must have other ways to convey the information in them. To make these Excel documents accessible, all graphs, pictures, or other images must be tagged or subtitled so that assistive technologies can interpret the content and intent of the graph, picture or image.

More accessibility support for Excel is planned by Microsoft with Office 2010 including “a document Accessibility Checker (like a spell checker, but for accessibility issues) as a core feature of Word, Excel, and PowerPoint.” The Accessibility Checker is designed to identify and provide assistance to address some of the major accessibility problems in Excel files. [Office 2010: Accessibility Investments & Document Accessibility](#) (Microsoft)

- ❑ “For organizations that are concerned about compliance for employees, we’ve provided several group policy settings that can be used to customize exactly which accessibility violations are checked. Administrators can also increase the visibility and emphasis of the Prepare for Sharing information when there are errors or warnings. Finally, IT departments can leverage Office 2010’s UI extensibility to enforce a workflow that requires users to run the checker – this will help many corporations reduce the risk of employees creating inaccessible content and increase the amount of accessible information available to people with disabilities.”

Recommended Starting Sources

- **Manuals / Tutorials:**

- HTML

- ❑ [Accessible Data Tables](#) (Usability.com)
 - ❑ [Accessible Tables](#) (Jim Thatcher)
 - ❑ [Creating Accessible Tables](#) (WebAIM)

- Excel

- ❑ [Creating Accessible Spreadsheets in Microsoft Excel](#) (California Polytechnic State University, San Luis Obispo)
 - ❑ [Creating Section 508 Compliant \(Microsoft\) Excel Documents](#) (PowerPoint) (U.S. Department of Health and Human Services)

- ❑ [Making Your Work More Accessible: Excel](#) (Freedom Scientific - JAWS Screen Reader)

- **Web sites:**

- ❑ [CSU's Professional Development for Accessible Technology: Microsoft Excel](#)

Find guides, print and video tutorials, best practices, training guidelines and more – developed by California State University staff and others to support the Accessible Technology Initiative within CSU.

- ❑ [CSU's Professional Development for Accessible Technology: STEM \(Science, Technology Engineering, & Math\)](#)

Find guidelines for describing scientific, technical, engineering and mathematical images, including bar charts, line graphs, Venn diagrams, scatter plots, tables, pie charts, flow charts, standard diagrams or illustrations, complex diagrams or illustrations, and math equations.

Additional Resources

- [W3C/WCAG Priority 1 Data Tables](#) (CSU Long Beach)
- [More Complex Data Table](#) (CSU Long Beach)
- [Issues for Statistical Agencies: Implementing Section 508 on Agency Web Sites \(PDF\)](#) (FedStats White Paper No. 1)
- Standard: [Accessible \(508\) Excel Presentations](#) (U.S. Department of Health and Human Services)

- ❑ Comma Separated Value (CSV) File

A Comma Separated Value (CSV) document or file format is simple and supported by most spreadsheets and database management systems.

If the purpose of a spreadsheet or database is to present a data set, the file may be presented as a Comma Separated Value (CSV) file and not as an XLS or other format file.

Checklist:

- ❑ The link must clearly state that the CSV is a raw data set.
- ❑ A separate definition document must accompany all CSV files.
- ❑ The file name must end with a .CSV extension.
- ❑ Commas must separate all fields. Fields that are blank still require a comma to delimit their position. A comma is not required after the last field of a record.
- ❑ A data set that would be presented as a CSV has the following characteristics:
 - A single row of headings in the first row.

- The data set contains no formulas.

DRAFT

7.45 Multimedia and Captioning

Captioning allows people with hearing loss to have comparable access to multimedia presentations. Captioning is also useful to people who need to mute sound in work environments. “Section 508 requires an equivalent experience for all users. Users should be able to follow the dialog and action in a multimedia file as it occurs. Captions - whether open or closed - must be timed to coincide with those events as they occur. (Such timing is not possible with standalone transcripts.) Where multimedia files are visual only and do not contain sound, such as in scientific models, users should be provided with an appropriate description to understand what is occurring.” [Accessibility \(Section 508\) and Video/Multimedia Content](#) (U.S. Department of Health and Human Services).

The requirement is specific: [1194.22 \(b\)](#) states “Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.” The U.S. Department of Health and Human Services makes this very clear in its guidance: “HHS must caption all videos and multimedia files, including all formats - over the air broadcast, CD or DVD, and Web multimedia (such as video podcasts, Webcasts, Flash, or other animation), whether produced internally or externally, including video produced by partners if federal funds are used. It is not permissible to provide stand-alone transcripts in lieu of video captioning. ... The captioning requirement covers videos intended for training or for public service announcements (PSAs).”

Captioning tools, including some that are freely available, have been improving so that captioning can be done more easily. There are also a number of commercial services that offer captioning.

Developments this last year show much promise in making captioning simpler, automatically synchronizing the transcript with the video and providing a captioned product for viewing online. [Stanford Captioning System](#) supports the Stanford community, connecting to transcribers and providing automatic time-stamping. In November 2009, Google and YouTube announced a trial project for [automatic captions on YouTube](#), which was followed on March 4, 2010 by the announcement that “Today, we are opening up auto-captions to all YouTube users. There will even be a ‘request processing’ button for un-captioned videos that any video owner can click on if they want to speed up the availability of auto-captions.” [The Future Will Be Captioned: Improving Accessibility on YouTube](#).

Recommended Starting Sources

- **Manuals / Tutorials:**
 - ❑ [Captioning Key for Educational Media - Guidelines and Preferred Techniques \(PDF\)](#) (Described and Captioned Media Program)
 - ❑ “How do I request auto-captions on a video?” [Getting Started: Adding / Editing captions](#) (YouTube)
 - ❑ [Streaming Video and Audio Services](#) - Master Service Agreement (MSA) (California Department of General Services)

- **Web sites:**

- [CA.GOV WebTools – Web Accessibility: Media](#)

Find selected sources to understanding captioning, how to caption and the software to do it, as well as possible contract sources – developed by the state Web Accessibility Team working with the eServices Office.

- [CSU's Professional Development for Accessible Technology: Captioning Media](#) / [Multimedia Accessibility](#)

Discover guides, print and video tutorials, best practices, training guidelines and more – developed by California State University staff, the High Tech Training Center Unit of the California Community Colleges, and others to support accessible technology.

- Topics for captioning include: basics of captioning video in post-production and real-time production. do-it-yourself video captioning, vendors for various kinds of captioning, etc.
 - Topics for multimedia include: information on podcasting, lecture capture, iTunesU, Dreamweaver, Flash, etc.

Note: A few resources are available only to CSU staff and students.

- [Thoroughly Modern Multimedia: Make Your Videos, Audio Files, Podcasts, and Other Multimedia Section 508 Compliant and Accessible](#) (WebContent.Gov)

Additional Resources

- [Web Captioning Overview](#) (WebAIM)
- [Captioning Resource List](#) (WebAIM)
- [NCDAAE Tips and Tools: Web Captioning](#) (National Center on Disability and Access to Education)
- [Web + Multimedia](#) (WGBH National Center for Accessible Media (NCAM))
- [Multimedia Accessibility FAQ](#) (World Wide Web Consortium (W3C))
- Standard: [Accessibility \(Section 508\) and Video/Multimedia Content](#) (U.S. Department of Health and Human Services)

7.46 Portable Document Formats (PDFs)

Portable Document Format (PDF) is a popular format for making documents available over the Internet.

To be accessible, PDF documents need to have the following characteristics:

- A logical structure and reading order
- Alternate text descriptions for figures, form fields, and links
- Navigational aids
- Security that is compatible with assistive technology
- Fonts that allow characters to be extracted to text

Improperly prepared PDF documents may not be accessible to many people with complete or low vision loss.

PDF documents which originate as images, scanned or imported, are particularly problematic. Without additional work using Optical Character Recognition (OCR), and additional editing within PDF authoring tools, such documents cannot be read by screen readers either for voice output or refreshable Braille. If hard copy documents are scanned, OCR technology must be used to create a readable text.

Fill-able forms in PDF have additional requirements and need careful preparation and tools. Some users with disabilities may need alternate formats.

Recommended Starting Sources

- **Checklists:**

The PDF document should meet one of the following checklists:

- ❑ [SSA Desk Guide to Accessible PDF Documents](#) (Word, 57KB) (U.S. Social Security Administration)
- ❑ [Checklist for Accessible PDF Documents](#) (Word, 725KB) (U.S. Social Security Administration)
- ❑ [Acrobat 9 Pro Check accessibility with Full Check](#) (Adobe) or its equivalent

- **Manuals / Tutorials:**

- ❑ [Adobe Acrobat 7 Professional: PDF Accessibility \(Section 508 Tagging\) Reference Guide](#) (Word) (State Web Accessibility Team)
- ❑ [Adobe Acrobat 8 Professional: PDF Accessibility \(Section 508 Tagging\) Reference Guide](#) (Word) (State Web Accessibility Team)
- ❑ [Adobe Acrobat 9 Professional: PDF Accessibility \(Section 508 Tagging\) Reference Guide](#) (Word) (State Web Accessibility Team)
- ❑ [PDF Accessibility: Creating Accessible PDF Documents](#) (PDF) (Accessible Technology Initiative (ATI) of the California State University)

- ❑ [Advanced Guide for Accessible PDF Documents](#) (PDF, 7.02 MB, 154 pages) (U.S. Social Security Administration)
- ❑ [Guide to Accessible PDF Documents and Forms](#) (PDF, 1.82MB, 46 pages) (U.S. Social Security Administration)
- ❑ [SSA Desk Guide to Accessible PDF Fillable Forms](#) (Word, 222KB) (U.S. Social Security Administration)

- **Web sites:**

- ❑ [CA.GOV WebTools – Web Accessibility: PDFs](#)

Find selected sources to understanding the portable document format; the relationship between Adobe, Acrobat, and PDF; and tools and techniques to make PDFs more accessible – developed by the State Web Accessibility Team working with the eServices Office.

- ❑ [CSU's Professional Development for Accessible Technology: Adobe PDF](#)

Get guides, print and video tutorials, best practices, training guidelines and more – developed by California State University staff and others to support the Accessible Technology Initiative within CSU.

Additional Resources

- [Accessibility](#) (Adobe)
- [Preparing Microsoft Word Documents to Create Accessible PDF Files](#) (Adobe)
- [PDF Accessibility: Defining PDF Accessibility](#) [Word 2000-2007 and Acrobat 7-8] (WebAIM)
- [Creating Section 508 Compliant PDF Documents I](#) (PowerPoint, 2.56 MB) (U.S. Department of Health and Human Services)
- [Creating Section 508 Compliant PDF Documents, Level II](#) - More detail on tagging and OCR (PowerPoint, 2.2 MB) (U.S. Department of Health and Human Services)
- [PDF File 508 Checklist](#) (U.S. Department of Health and Human Services)
- [Testing Documents for Section 508 Compliance: Testing PDF Documents with Adobe Acrobat Professional 8.0](#) (U.S. Department of Health and Human Services)
- [Accessible \(508\) PDF Forms](#) (U.S. Department of Health and Human Services)

7.47 PowerPoint

Microsoft PowerPoint is widely used for presentations and can contain text, graphics, audio, video, and animation. Because it is primarily used as a visual tool with such varied and rich content, PowerPoint can present significant challenges in providing an accessible version, particularly for people with screen readers. Graphical images need alternate text. Charts and graphs need summaries or explanations. Also, audio and video need captioning for persons who are deaf or hard of hearing.

These resources include information both on creating accessible PowerPoint presentation and on using other presentation options, such as converting to HTML or using other applications to create a slide show directly in HTML.

More accessibility support for PowerPoint is planned by Microsoft with Office 2010 including “a document Accessibility Checker (like a spell checker, but for accessibility issues) as a core feature of Word, Excel, and PowerPoint.” The Accessibility Checker is designed to identify and provide assistance to address some of the major accessibility problems in PowerPoint documents. [Office 2010: Accessibility Investments & Document Accessibility](#) (Microsoft)

- ❑ “For organizations that are concerned about compliance for employees, we’ve provided several group policy settings that can be used to customize exactly which accessibility violations are checked. Administrators can also increase the visibility and emphasis of the Prepare for Sharing information when there are errors or warnings. Finally, IT departments can leverage Office 2010’s UI extensibility to enforce a workflow that requires users to run the checker – this will help many corporations reduce the risk of employees creating inaccessible content and increase the amount of accessible information available to people with disabilities.”

Recommended Starting Sources

- **Checklists:**

- ❑ [PowerPoint Document 508 Checklist](#) (U.S. Department of Health and Human Services)

- **Manuals / Tutorials:**

- ❑ [MS PowerPoint 2007: Creating Accessible PowerPoint Presentations](#) (PDF) (Accessible Technology Initiative (ATI) of the California State University)
- ❑ [Microsoft PowerPoint Accessibility - Video Tutorials](#) (Accessible Technology Initiative (ATI) of the California State University)

The tutorial in 13 brief unit presents how to create a new accessible PowerPoint presentation, not how to retrofit an existing one.

Units are: Introduction to PowerPoint Accessibility; The Law; Layout Basics; Slide Layouts; Add Alternative Text to Graphics; Grouping Images and

Making Them Accessible; Long Descriptions for Complex Images; Making Hyperlinks Accessible; Making eMail Addresses Accessible: Inserting Documents into PowerPoint; Adding Tables to Your Presentation; Adding Charts into PowerPoint; Copying Data From Another Application ; Summary

- ❑ [PowerPoint 2007 & 2003 with JAWS and MAGic](#) (Freedom Scientific - JAWS Screen Reader)

People who currently use the JAWS screen reader or who use MAGic screen magnification may use this tutorial to learn how to create a slide show in PowerPoint 2007 and 2003.

- **Web sites:**

- ❑ [CSU's Professional Development for Accessible Technology: Microsoft PowerPoint](#)

Locate guides, print and video tutorials, best practices, training guidelines and more – developed by California State University staff and others to support the Accessible Technology Initiative within CSU.

Versions of PowerPoint include: 2007 and 2003 for Windows; 2008 for Mac.

- ❑ [PowerPoint Accessibility](#) (WebAim)

Learn three options for a slide show presentation on the Web: Posting the original PowerPoint (PPT) file; Converting the original file to HTML and provide this in addition to or instead of the PowerPoint file; and Creating an original slide show in HTML.

Additional Resources

- [Accessible Conversion of PowerPoint Documents To The Web](#) (CSU Northridge)

8.0 Frequently Asked Questions

The following Frequently Asked Questions (FAQs) have been prepared initially to answer the most common questions and to assist in becoming familiar with this resource guide. The future move to the OCIO Wiki will support ongoing development with an increased number of FAQs, more detail, and additional sources in the answers:

- Question: Where can I find how to make my Web site accessible?

Answer: [Accessible Web](#)

- Question: What is Government section Code 11135? What does it require of my department?

Answer: [California Government Code section 11135 Basics](#)

- Question: What is Section 508?

Answer: [Section 508 Basics](#)

Answer: [Section 508 In-depth](#)

- Question: Aren't there any exemptions to our having to meet the accessibility requirements of Section 508?

Answer: [Reviewing Section 508 Exceptions in State IT Projects](#)

- Question: The standards for Section 508 are old. What is being done so to make them more relevant to current technology?

Answer: In fact, [Section 508 is designed to evolve](#) with developments in technology and assistive technologies

- Question: We are just hearing about all this accessibility stuff, new requirements. Are there actually any state IT policies that require this?

Answer: [Digital Accessibility Policies and Requirements](#)

- Question: We are developing some apps for smart phones. All the smart phones like the iPhone and Google are newer than Section 508. They don't need to be accessible, do they?

Answer: [Mobile Web – Accessibility Policy Guidance](#)

- Question: I have been told to post some PDFs on our Web site? Are PDFs accessible?

Answer: [PDFs](#)

- Question: I don't understand why we have to do this. How can someone who is blind use the Web?

Answer: [How Persons with Disabilities Use Computers and the Web](#)

- Question: We have some videos we want to put on YouTube and have been told they have to be captioned. How do we do that?

Answer: [Multimedia and Captioning](#)

Answer: There is a simpler way now here: [Automatic Captions on YouTube](#) (Google) and "How do I request auto-captions on a video?" [Getting Started: Adding / Editing captions](#) (YouTube)

- Question: All right, we understand that we have to make our IT accessible. How do we do that?

Answer: [Integrating Digital Accessibility](#)

Answer: [Roles and Responsibilities](#) in Digital Accessibility

Answer: [Learning from Others: Approaches to Implementing Digital Accessibility](#)

- Question: What is the difference between EIT as defined in Section 508 and IT as defined in SAM?

Answer: The Section 508 EIT definition includes electronic devices, such as copiers and fax machines that are not under the authority of the OCIO. The OCIO defines only IT ([SAM Section 4819.2](#)).